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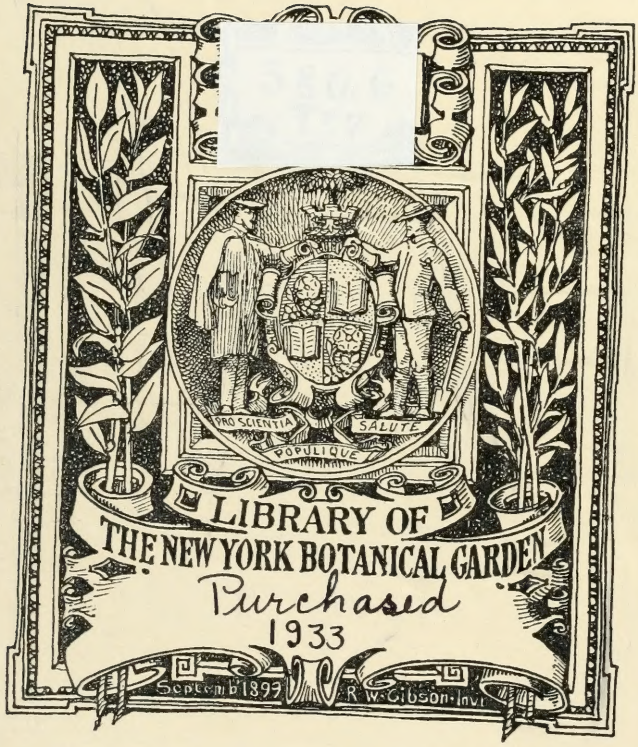
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I.

Plantæ Hattæ. vel, Materiæ ad Floram Koreanam et Manshuricam.

auctore **T. Nakai.**

Botanicus adjutor in Universitate Imperiale Tokyoense.

Accepi nuper nonnulla specimina plantarum ex domino K. HATTA, magister scholæ Agriculturæ et Forticulturæ in Korea. Index collectionum suarum plantarum adhuc mihi concessarum apparuit in meis 'Flora Koreana.' Plantæ in presente opere enumerare adgredior tria genera specimina continent. Plurimam partem vero primum a dom. UEKI. circa Suigen (Korea) lectum, secundum a discipulis suis in variis locis Koreæ discerptum, tertium dom. HATTA ipso serium (ie. in æstate ann. 1910–1911) in regionibus Kirinensis (Manshuria), ubi Illus. KOMAROV olim diligenter exploravit, lectum est. Alio officio per peragrinationem distrincto, discerpit hic illuc sponte has plantas, neque quæsivit novitates neque investigavit habitates plantarum. Inter eos nonnullas insignas species adsunt et præcipue Neillia est notabillima.

I. Ranunculaceæ.

1) **Ranunculus acris** L. NAKAI Fl. Kor. I. 23.
Korea: circa Suigen (UEKI) no. 70.

2) **Aquilegia oxysepala** TRAUTV. et MEY. NAKAI l. c. II. 432.
Korea: circa Suigen (UEKI) no 4.

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II. Caryophyllaceæ.

3) **Krascheninnikowia heterophylla** MIQ. in ANN. Mus. Bot. Lugd. Bat. III. 187. Palib. Consp. Fl. Kor. I. 41.
Korea: circa Suigen (UEKI).

III. Guttiferæ.

4) **Hypericum Yabei** Léveillé et Vaniot. Nakai Fl. Kor. I. 97.

Korea : circa Suigen (Ueki) no. 60.

IV. Tiliaceæ.

5) **Tilia amurensis** Kom. Fl. Mansh. III. 24. Nakai l. c. I. 105.

Manshuria : Chang-Kwan-Tsee-Ring (張廣財嶺). Junio 16. 1911. (K. Hatta) no. 17.

6) **Tilia mandshurica** Rupr. et Maxim. Kom. Fl. Mansh. III. 28. Nakai I. 106. II. 454.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911. (K. Hatta) no. 19.

V. Rutaceæ.

7) **Phellodendron amurense** Rupr. Kom. II. 668. Nakai I. 117.

Manshuria : Chang-Kwan-Tsee-Ring, Junio 16. 1911 (K. Hatta) no. 20.

VI. Rhamnaceæ.

8) **Rhamnus daurica** Pall. Kom. III. 9. Nakai I. 125. II. 460.

Manshuria : Chang-Kwan-Tsee-Ring, Junio 16. 1911 (K. Hatta) no. 10.

VII. Aceraceæ.

9) **Acer mandshuricum** Maxim. Kom. II. 727. Nakai I. 132.

Manshuria : Chang-Kwan-Tsee-Ring, Junio 16. 1911 (K. Hatta) no. 11.

VIII. Leguminosæ.

10) **Cassia mimosoides** L. var. **dimidiata** Hook. fil. Nakai I. 142.

Korea : circa Suigen (Ueki) no. 8.

11) **Lespedeza cyrtobotrya** MIQ. Prol. Fl. Jap. 236. NAKAI I. 155.

Korea : sine loco speciali (a discipulis). d. g. e.

12) **Lespedeza striata** HOOK. et ARN. Bot. Beech. Voy. 262. Folia elliptica nunquam obovato-elliptica, sed junior planta haud raro folia obovata agit. Stipula quam var. *stipulacea* MAKINO. (*L. stipulacea* MAXIM.) angustior, ramusque densius congestus. Specimina exsiccata inter sese simillimum fit, sed viva primo obtutu distinguere possimus.

Korea : circa Suigen (UEKI).

Planta nova ad Floram Koreanam.

13) **Lespedeza bicolor** TURCZ. var. **intermedia** MAXIM. in Act. Hort. Petrop. II. 356. Nakai I. 156.

Korea : sine loco speciali (a discipulo) f.

var. **Sieboldii** MAXIM. l. c. NAKAI I. 156.

Korea : sine loco speciali (a discipulo) h.

14) **Cladrastis amurensis** (RUPR. et MAXIM.) BENTH. Gen. Pl. I. 554. NAKAI I. 167.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911. no. 10. (K. HATTA).

IX. Rosaceæ.

15) **Neillia Uekii** sp. nov.

Specimen mancum, tantum fructus et folia portat, sed evidenter species Neilliæ nova est.

Ramus gracilis, subangulato-striatus, modo alliis Neilliis similis, annotinus incanus, hornotinus squamis imbricatis suffultus, pubescens. Folia petiolata et stipulata. Petiolus arcuatus 3–6 mm. longus pubescens. Stipulæ caducæ. Lamina foliorum ambitu ovata v. late-ovata v. oblongo-ovata, forma et serris *Neilliæ sinensis* ommino similis, supra glaberrima, subtus ad nervos pilosula. Racemus ad apicem rami hornotini terminalis, fructiferum 4–6 cm. longus ; pars fructifera 2.5–4.3 cm. longa ; rhachis pilosula. Pedicellus 2.5–3 mm. longus parce glanduloso-hispidus. Calyx ovatus dense glanduloso-aculeatus, ciliis obsoletis intermixtus. Glandula 1.5–2 mm. longa. Tubus calycis 6 mm. longus, 10 nervis. Dentes calycis

5 elongato-triangulati 3 mm. longi, conniventes sed apice parce reflexi. Carpellum 1, ovatum apice acutum ventrali-dehiscense biseminibus. Styli 3 mm. longi persistentes. Semina horizontali ornata. Semen obovatum lucidum albuminatum. Testa coriacea, ventrali unijugalis. Embryo erecta. Cotyledones laterali positi.

Korea : sine loco speciali (a discipulo) p.

Species inter *N. thyrsiflora* et *N. sinensis* interstat. Glandula calycis priori similis et forma foliorum posteriori appropinquit.

Genus *Neillia* est incola Asiæ. Sex species adhuc notæ sunt. Omnes in regionibus Himalayæ et Chinæ indigenæ sunt, ita ex regionibus Manshuria-Koreanis nulla nota erat. Inventio hujus species est res notabillima, et distributionem hujus generis ad has regiones amplificat.

16) **Cratægus pinnatifida** Bunge Enum. pl. Chin. bor. n. 157. Kom. II. 466. Nakai I. 179.

Manshuria : Chang-Kwan-Tsee-Ring. Junio. 16. 1911 no. 16. (K. Hatta).

17) **Rubus pungens** Camb. Nakai I. 187.

Korea : circa Suigen (Ueki).

18) **Pirus Calleryana** Dcsne. Nakai I. 181.

Korea : circa Suigen (Ueki).

19) **Pirus baccata** L. var. **sibirica** Maxim. in Mel. Biol. IX. 166. Kom. Fl. Mansh. II. 475. Nakai Fl. Kor. I. 181.

Manshuria: Ka-y-pu-hu(卡一巴河) Junio 13. 1911 (K. Hatta)

20) **Geum strictum** Ait. Kom. II. 517. Nakai I. 200.

Manshuria : Wang-Da-Hu-Tsu (横道河子) Junio 30. 1911 no 1. et no. 5 (K. Hatta).

21) **Potentilla Kleiniana** Wight et Arn. Nakai I. 198.

Korea : circa Suigen (Ueki) no. 7.

X. Saxifragaceæ.

22) **Philadelphus coronarius** L. γ. **Satsumi** (Sieb.) Maxim. Nakai I. 221.

Manshuria : Wang-Da-Hu-Tsu. Junio 30. 1911 no. 3. (K. Hatta).

23) **Deutzia parviflora** Bunge Kom. II. 431. Nakai I. 222.

Manshuria: Wang-Da-Hu-Tsu, Junio 30. 1911 no. 2. (K. HATTA).

XI. Oenotheraceæ.

24) **Ludwigia prostrata** ROXB. NAKAI I. 239.
Korea: circa Suigen (UEKI). no. 81.

XII. Umbelliferæ.

25) **Sium Ninsi** L. NAKAI I. 260.
Korea: circa Suigen (UEKI) no. 73.

XIII. Araliaceæ.

26) **Eleutherococcus senticosus** MAXIM. Kom. Fl. Mansh. III. 119.
Manshuria: Chang-Kwan-Tsee-Ring. Junio 16. 1911. no. 14. (K. HATTA).

XIV. Caprifoliaceæ.

27) **Viburnum Opulus** L. var. **Sargentii** TAKEDA. NAKAI II. 495.
Manshuria: Chang-Kwan-Tsee-Ring. Junio 16. 1911 no. 9. (K. HATTA).

28) **Lonicera Ruprechtiana** REGEL Gartenfl. XIX. 68. t. 645. Kom. Fl. Mansh. III. 523.
Korea: sine loco speciali (a discipulo). j.
Planta nova ad Floram Koreanam.

XV. Valerianaceæ.

29) **Valeriana officinalis** L. NAKAI I. 302. II. 504.
Manshuria: Wang-Da-Hu-Tsu. Junio 30 1911 no 4. (K. HATTA).

XVI. Compositæ.

30) **Bidens tripartita** L. NAKAI II. 20.
Korea: circa Suigen (UEKI) no. 19.

31) **Saussurea affinis** SPRENG. NAKAI II. 42.
Korea: circa Suigen, no. 21. (UEKI).

32) **Centipeda minima** (L.) O. KUNTZE NAKAI II. 26.
Korea: circa Suigen, no 61. (UEKI).

33) **Cirsium Maackii** Maxim. Nakai II. 47.
Korea : circa Suigen no. 74. (Ueki).
34) **Erigeron canadensis** L. Nakai II. 12.
Korea : circa Suigen, no. 80. (Ueki).
35) **Sonchus oleraceus** L. Nakai II. 53.
Korea : circa Suigen, no. 66. (Ueki).
36) **Lactuca versicolor** (Fischer) Sch.–Bip. Nakai II. 56.
Korea : circa Suigen no. 29. (Ueki).
37) **Lactuca Bungeana** Nakai II. 56.
Korea : sirca Suigen. no 56 et 82. (Ueki).
38) **Hieracium hololerion** Maxim. Nakai II. 58.
Korea : circa Suigen. no. 2. (Ueki).

XVII. Campanulaceæ.

39) **Adenophora verticillata** Fischer Nakai II. 65.
Korea . circa Suigen. no 51. (Ueki).

XVIII. Primulaceæ.

40) **Androsace saxifragæfolia** Bunge Nakai II. 79.
Korea : circa Suigen (Ueki).

XIX. Styracaceæ.

41) **Symplocos cratægoides** Ham. Nakai II. 85.
Korea : sine loco speciali (a discipulo) q.

XX. Polemoniaceæ.

42) **Polemonium cæruleum** L. Nakai II. 101.
Korea : circa Suigen. no. 3. (Ueki).

XXI. Borrhaginaceæ.

43) **Brachybotrys paridiformis** Maxim. Nakai II. 102.
Korea : circa Suigen no. 5. (Ueki).

XXII. Solanaceæ.

44) **Physalis minima** L. Nakai II. 114.
Korea : circa Suigen, no. 52. (Ueki).

XXIII. Scrophulariaceæ.

45) **Mazus japonicus** (Thunb.) O. Kuntze Nakai II. 119.
Korea : circa Suigen, no. 11. (Ueki).

XXIV. Labiatæ.

46) **Stachys aspera** MICHX. var. **chinensis** MAXIM. forma **glabrata** NAKAI II. 147.

Korea : circa Suigen no. 57. (UEKI).

47) **Salvia plebia** R. BR. NAKAI II. 141.

Korea : circa Suigen no. 63. (UEKI).

48) **Meehania urticifolia** KOM. NAKAI. II. 151.

Korea : circa Suigen no. 2. (UEKI).

49) **Mosla grosse-serrata** MAXIM. NAKAI II. 145.

Korea : circa Suigen. no. 26. (UEKI).

XXV. Polygonaceæ.

50) **Polygonum Persicaria** L. NAKAI II. 167.

Korea : circa Suigen. no. 34. (UEKI).

XXVI. Santalaceæ.

51) **Thesium chinense** TURCZ. NAKAI II. 180.

Korea ; circa Suigen no. 14. (UEKI).

XXVII. Euphorbiaceæ.

52) **Phyllanthus ussuriensis** RUPR. et MAXIM. NAKAI II. 182.

Korea : circa Suigen. no. 25 et 30 (UEKI).

XXVIII. Ulmaceæ.

53) **Ulmus montana** WITH. var. **laciniata** TRAUTV. NAKAI II. 190.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911. no. 13. (K. HATTA).

54) **Celtis sinensis** PERS. NAKAI II. 192.

Korea : sine loco speciali (a discipulo) n.

55) **Celtis Bungeana** PL. NAKAI II. 192.

Korea : sine loco speciali (a discipulo) o.

XXIX. Betulacaceæ.

56) **Betula daurica** PALL. NAKAI II. 203.

Korea : circa Suigen (UEKI) sine loco speciali (a discipulo) c.

57) **Carpinus cordata** BL. NAKAI II. 205.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911. no. 12. (K. Hatta.)

XXX. Salicaceæ.

58) **Salix vagans** Anders. var. **cinerascens** Anders. Nakai II. 213.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911 no. 21. (K. Hatta).

59) **Salix purpurea** L. Nakai II. 215.

Korea : sine loco speciali (a discipulo) k.

60) **Salix cinerea** L. Nakai II. 213.

Korea : sine loco speciali (a discipulis) l. et s.

61) **Populus tremula** L. Nakai II. 211.

Korea : sine loco speciali (a discipulo) m.

XXXI. Iridaceæ.

62) **Iris ensata** Thunb. var. **chinensis** Maxim. Nakai II. 231.

Manshuria. Tong-Kong-Kwi-Tsu (通崗溝子). Junio 14. 1911 (K. Hatta).

63) **Iris sibirica** L. var. **orientalis** Thunb. Nakai II. 233.

Korea : circa Suigen no. 67. (Ueki).

XXXII. Liliaceæ.

64) **Trillium obovatum** Pursh. Nakai II. 240.

Korea : circa Suigen no. 8. (Ueki).

65) **Allium tenuissimum** L. Nakai II. 259.

Korea : circa Suigen no. 83. (Ueki).

XXXIII. Juncaceæ.

66) **Luzula campestris** L. var. **capitata** Miq. Nakai II. 268.

Korea : circa Suigen (Ueki).

XXXIV. Cyperaceæ.

67) **Cyperus Iria** L. Nakai l. c. II. 288.

Korea : circa Suigen no. 3 (Ueki).

68) **Fimbristylis diphylla** Vahl. Nakai II, 291.

Korea : circa Suigen no. 28. (Ueki).

69) **Fimbristylis miliacea** Vahl. Nakai II. 290.

Korea : circa Suigen no. 53. (Ueki).

70) **Bulbostylis capillaris** L. var. **trifida** (KUNTH) C. B. CLARKE NAKAI II. 295.

Korea : circa Suigen no. 62. et 78. (UEKI).

71) **Carex pumila** THUNB. NAKAI II. 333.

Korea : circa Suigen no. 75. (UEKI).

72) **Carex Arnelli** CHRIST. NAKAI II. 325.

Korea : circa Suigen no. 6. (UEKI).

73) **Carex nubigena** DON. v. **ablata** (BOOTT.) KÜK. NAKAI II. 305.

Korea : circa Suigen no. 49. (UEKI).

74) **Carex neurocarpa** MAXIM. NAKAI II. 289.

Korea : circa Suigen no. 57. (UEKI).

XXXV. Graminæ.

75) **Rottbœlia compressa** L. *δ.* **japonica** HACKEL. NAKAI II. 341.

Korea : circa Suigen no. 68. (UEKI).

76) **Arthraxon ciliaris** BEAUV. *α.* **genuinus** HACKEL. NAKAI II. 343.

Korea : circa Suigen no. 79. (UEKI).

77) **Andropogon Nardus** L. var. **Gœringii** HACKEL NAKAI II. 343.

Korea : circa Suigen no. 15. (UEKI).

78) **Andropogon brevifolius** SW. NAKAI II. 343.

Korea : circa Suigen no. 23. (UEKI)

79) **Panicum Crus-Galli** L. var. **genuinum** HACKEL NAKAI II. 347.

Korea : circa Suigen no. 5. et 32 (UEKI).

var. **frumentaceum** HOOK. fil. NAKAI l. c.

Korea : circa Suigen no. 27, 48 et 76. (UEKI).

80) **Panicum acroantha** STEUD. NAKAI II. 346.

Korea : circa Suigen no. 64. (UEKI)

81) **Panicum indicum** L. NAKAI II. 347.

Korea : circa Suigen no. 13 et 72. (UEKI).

82) **Setaria viridis** BEAUV. NAKAI II. 350.

Korea : circa Suigen no. 9. et 77. (UEKI).

83) **Phalaris arundinacea** L. *a.* **genuina** Hackel. Nakai II. 352.

Korea : circa Suigen no. 58. (Ueki).

84) **Cinna pendula** Trin. Nakai II. 356.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911 no. 7. (K. Hatta).

85) **Agrostis perennans** Tuck. Nakai II. 359.

Korea : circa Suigen no. 69. (Ueki).

86) **Trisetum flavescens** Beauv. var. **macrantha** Hackel. Nakai II. 360.

Korea ; circa Suigen no. 1. et 71. (Ueki).

87) **Eragrostis pilosa** Beauv. Nakai II. 366.

Korea : circa Suigen (Ueki).

88) **Eragrostis ferruginea** Trin. Nakai II. 365.

Korea : circa Suigen no. 24. (Ueki).

89) **Poa strictula** Steud. Nakai II. 371.

Korea : circa Suigen no. 65. (Ueki).

90) **Bromus ciliatus** L. Nakai II. 374.

Korea : circa Suigen no. 38 (Ueki).

91) **Agropyrum ciliare** Franch. Nakai II. 375.

Korea : circa Suigen no. 12, 16. et 17. (Ueki).

92) **Arundinaria japonica** Sieb. et Zucc. Nakai II. 377.

Korea : Kyöng-geui : Daisonri (京畿道, 道律郡, 大坡面, 大村里). (Ueki).

XXXVI. Pinaceæ.

93) **Abies nephrolepis** Maxim. Nakai II. 381.

Manshuria : Chang-Kwan-Tsee-Ring. Junio 16. 1911 (K. Hatta).

XXXVII. Equisetaceæ.

94) **Equisetum hiemale** L. Nakai II. 421.

Korea : circa Suigen no. 22. (Ueki).

Observations on the Flora of Japan.

(*Continued from vol. XXV. p. 258.*)

By

T. Makino.

SASA Makino et Shibata in Bot. Mag., Tokyo, XV. (1901), p. 18.

Culm terminating the rhizome and its branches. Stamens usually 6, but very rarely 3.

(*A*) Group of *Sasa paniculata*. Stamens 6.

Sasa nana (Hackel) *Makino*. nom. nov. (Fig. I.)

Arundinaria nana Hack. in litt. ex J. Matsum. in Herb. Sc. Coll. Imp. Univ. Tokyo.

Sasa nipponica var. nana Makino, ined.

Arundinaria paniculata var. nana Makino, Bamb. Jap. in Bot. Mag., Tokyo, XIV. (1900), p. 53.

Fig. I. $\frac{1}{3}$

Sasa paniculata var. nana Makino et Shibata, l. c. p. 26.

Culm laxly ramose above, attaining about 2m. in height, and 6mm. in diameter; nodes slightly prominent. Leaves more or less pubescent beneath, narrowly albo-marginate by decaying in late autumn and winter.

Nom. Jap. *Miyama-suzu.*

Hab. Japan, mountains.

This is probably a hybrid between *Sasa spiculosa* Makino and *S. nipponica* Makino et Shibata.

Besides, *Sasa spiculosa, ramosa, albo-marginata, paniculata, chartacea, kurilensis,* and *tessellata* Makino et Shibata belong to this group having also 6 stamens.

(*B*) Group of *Sasa japonica.*

(*a*) Stamens 6.

Sasa spiculosa Makino, nom. nov.

Arundinaria kurilensis ? *spiculosa* Fr. Schmidt, Reis. im Amurl. u. Ins. Sachal. in Mém. Acad. Imp. Sc. St.-Pétersb. 7 Sér. XII. 2, (1868), p. 198, ex descr.

Bambusa borealis Hackel in Bull. Herb. Boiss. VII. (1899), p. 720.

Arundinaria borealis Makino in Bot. Mag., Tokyo, XIV. (1900), p. 20.

Sasa borealis Makino et Shibata in Bot. Mag., Tokyo, XV. (1901), p. 24, tab. 1, fig. 7–16.

Bambusa purpurascens Makino in Descr. Prod. forest. Exp. Univ. 1900 Paris Minist. Agr. et Comm., et in Bot. Mag., Tokyo, XIV. (1900), p. 62 (Jap).

? *Arundinaria purpurascens* Hackel, l. c. p. 716

Bambusa senanensis Hort.; Mitf. Bamb. Gard. p. 78. (sp. post.); Satow, Cult. Bamb. Jap. in Trans. Asiat. Soc. Jap. XXVII. 3, p. 65 cum icon, non Franch. et Sav.

Nom. Jap. *Suzu-dake.*

The culm is employed to make a traveler's bamboo-basket (*take-gôri*), which is just like the wicker basket commonly used.

(*b*) Stamens 3 mixed with 4.

Sasa japonica (Sieb. et Zucc.) Makino, nom. nov. (Fig. II.)

Arundinaria japonica Sieb. et Zucc. ex Steud. Syn. Gram. p. 334; Makino in Bot. Mag., Tokyo, XIV. (1900), p. 62 (Jap.), et p. 80.

Bambusa japonica Nichols. Ill. Dict. Gard. I. p. 118.

Bambusa Metake Sieb. in Hort. Cat. ex Miq. Ann. Mus. Bot. Lugd.-Batav. II. p. 284, non Sieb. Syn. Pl. Oecon. Jap. (1830), p. 4.

Arundinaria Metake Nichols. l. c. p. 118.

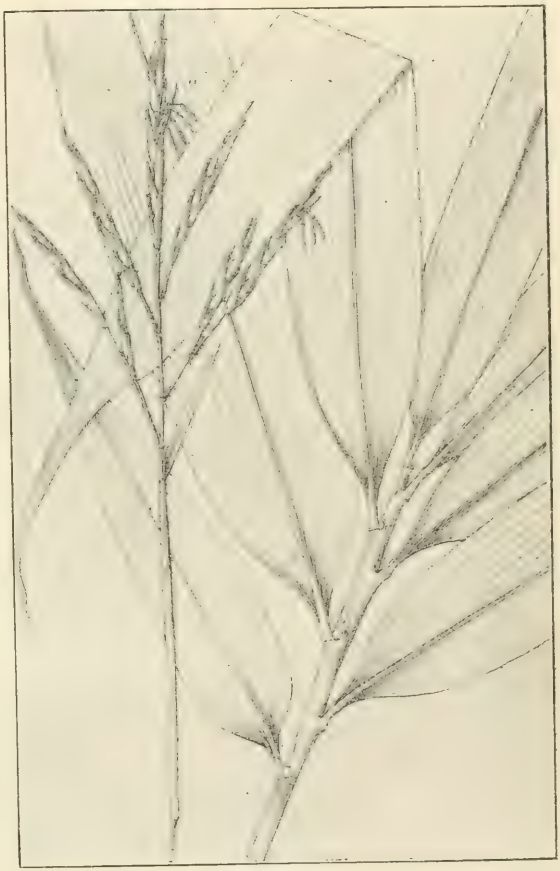

FIG. II. $\frac{1}{2}$

Bambos jatake Sieb. Syn. Pl. Oecon. Jap. p. 5.

Bambusa mitis Hort. Paris. ex Munro, Monogr. Bamb. in Trans. Linn. Soc. XXVI. p. 18, non Poir.

Phyllostachys bambusoides Matsum. Shok.-Mei. (1895), p. 213, n. 2315; E. Satow, Cult. Bamb. Jap. in Trans. Asiat. Soc. Jap. XXVII. 3, p. 46 cum tab., non Sieb. et Zucc.

Panicles erect, not large, broad or narrow, not dense, long-peduncled.

Nom. Jap. *Ya-dake* (Arrow Bamboo).

This species has especially a close affinity to *Sasa spiculosa* Makino (=*S. borealis* Makino et Shibata). My Herbarium

keeps floriferous specimens, which I have collected on a hill near Haiki and Kawatana in the province of Hizen in Kiusiu, August 1907.

Sasa Owatarii Makino, nom. nov.

Arundinaria Owatarii Makino in Bot. Mag., Tokyo, XXI. (1907), p. 16.

Rhizome hypogæous, repent, long, slender, terete, smooth, about 4mm. across; internode about $1\frac{1}{3}-4\frac{1}{4}$cm. long. Culm erect, slender, densely branched, attaining about 1m. or more in height, about $4\frac{1}{2}$mm. in diameter, smooth, flavescent when dried; node scarcely prominent; sheath glabrous, microphyll linear, setaceo-acuminate. Leaves 2–13cm. long, $\frac{1}{4}-1\frac{1}{3}$cm. broad, 1–4 to an ultimate ramule, pale-viridescent when dried, broader in those of the shoot.

Nom. Jap. *Yakushima-dake* (T. Makino).

Hab. Prov. Ôsumi: Isl. Yakushima, mountain (*C. Ôwatari*!; *T. Makino*!).

Arundinaria Chino (Franch. et Sav.) Makino, nom. nov.

Bambusa Chino Franch. et Sav. Enum. Pl. Jap. II. pp. 183, 607.

Arundinaria Simoni var. Chino Makino in Descr. Prod. forest. Expos. Univ. 1900 Paris Minist. Agric. et Commerc.; Id. in Bot. Mag., Tokyo, XIV. (1900), p. 62 (Jap.), et p. 93.

Bambuse Laydekeri Hort. ex Bean in Gard. Chron. 3rd. Ser. XV. p. 368; Mitf. Bamb. Gard. p. 92 cum tab.; Satow, Cult. Bamb. Jap. in Trans. Asiat. Soc. Jap. XXVII. 3, p. 47.

Arundinaria Laydekeri Bean, l. c. p. 238.

Arundinaria vaginata Hack. in Bull. Herb. Boiss. VII. p. 717, pro parte.

? *Bambos sinotake* Sieb. Syn. Pl. Oecon. Jap. p. 5.

Nom. Jap. *Hakone-dake.*

Hab. Japan, widely distributed.

var. argenteo-striata Makino.

Arundinaria Simoni var. argenteo-striata Makino Descr. Prod. forest. Exp. univ. 1900 Paris Minis. Agric. et Comm.;

Id. in Bot. Mag., Tokyo, XIV. (1900), p. 62 (Jap.), et p. 100.
Nom. Jap. *Shima-medake* (T. Makino).
Hab. Japan, gardens.

Arundinaria variegata (Sieb.) Makino, nom. nov.

Bambusa variegata Sieb. MSS. ex Miq. Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Batav. II. (1865–66), p. 285.

Arundinaria variabilis var. variegata Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Bambusa picta Sieb. et Zucc. ex Munro in Trans. Linn. Soc. XXVI. p. 111.

Bambusa Fortunei foliis niveo-vittatis Van Houtte, Fl. des Serres et des Jard. de Europ. XV. tab. 1535 (1863).

Arundinaria Fortunei fol. var. A. et C. Rivière, Bambous, p. 314; Bean, l. c. p. 239.

Arundinaria Fortunei var. variegata Bean in Gard. Chron. 3rd. Ser. XV. p. 238.

Arundinaria Fortunei Mitf. Bamb. Gard. p. 102.

Bambusa Maximowiczii Hort. ex Munro in Gard. Chron. (1876), II. p. 774.

Nom. Jap. *Chigo-zasa, Shima-zasa.*

Hab. Japan, gardens.

var. viridi-striata (Sieb.) Makino.

Bambusa viridi-striata Sieb. ex André, Ill. Horticol. XIX. p. 319, tab. 108.

Arundinaria variabilis var. viridi-striata Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Arundinaria Fortunei var. aurea Bean in Gard. Chron. 3rd. Ser. XV. p. 239.

Bambusa Fortunei aurea Hort. ex Mitf. Bamb. Gard. p. 101.

Arundinaria auricoma Mitf. l. c. p. 100.

Nom. Jap. *Kamuro-zasa.*

Hab. Japan, gardens.

var. viridis Makino.

Culms slender or stout, largest one attaining about $3\frac{1}{2}$m. in height and 13mm. in diameter. Leaves green, lanceolate, usually more or less abruptly acuminate at the apex,

usually rounded or rounded-obtuse at the base, shortly petiolate, chartaceous, 4—25 cm. or sometimes 29 cm. long, $\frac{3}{3}$—$3\frac{1}{2}$ cm. broad; veins 3—7 on each side of the midrib; venules finely tessellate.

forma a. pubescens Makino.

Arundinaria variabilis forma foliis pubescentibus Makino in Bot. Mag., Tokyo, XIV. (1900), p. 62 (Jap.).

Leaves pubescent beneath.

Nom. Jap. *Ke-nezasa.*

Hab. Japan.

forma b. glabra Makino.

Arundinaria variabilis forma oliis glabris Makino in Bot. Mag., Tokyo, XIV. (1900), p. 62 (Jap.).

? *Arundinaria Fortunei* Hort. ex Bean in Gard. Chron. 3rd. Ser. XV. 1, (1894), p. 239.

? *Arundinaria Fortunei viridis* Hort.

? *Bambusa gracilis* Hort. ex Bean, l. c.

Leaves glabrous on both surfaces.

Nom. Jap. *Nezasa.*

Hab. Japan.

var. Tanakae Makino.

Arundinaria variabilis var.

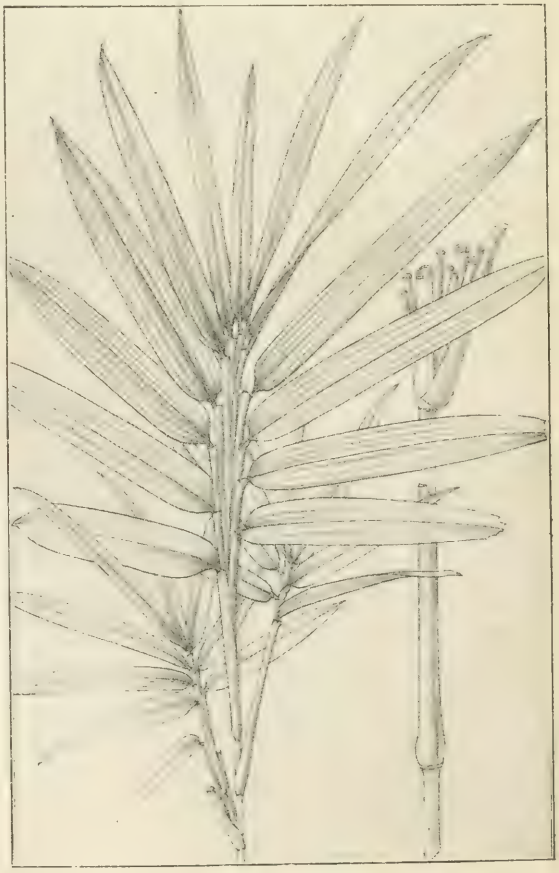

Fig. III. $\frac{1}{2}$

Tanakae Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Nom. Jap. *Sudare-yoshi.*

Hab. Prov. BUNGO (*T. Makino*! 1911).

var. pygmæa (Miq.) Makino.

forma a. pubescens Makino.

Bambusa pygmæa Miq. Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Bat. II. (1865–66), p. 286.

Arundinaria pygmæa Mitf. Bamb. Gard. p. 49.

Leaves pubescent beneath.

Nom. Jap. *Ke-oroshimachiku* (nom. nov.).

Hab. Japan, rare.

forma b. glabra Makino.

Bambusa pygmæa Bot. Jap. non Miq.

Arundinaria variabilis var. pygmæa Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

A dwarf and densely tufted bamboo, attaining about $\frac{1}{2}$ m. in height. Culm slender, fistulose, densely ramose in age with erect branches, the largest one nearly 3mm. in diameter at the base. Leaves distichous, approximate, lanceolate, acuminate at the apex, rounded at the base, very shorty petioled, $\frac{2}{3}-5\frac{1}{2}$cm. long, $2\frac{1}{2}-13$ mm. broad, scabrous on the margins but frequently ciliated below, chartaceous, glabrous on both surfaces, green above, more or less paler beneath; veins 2–4 on each side; venules finely tessellate; ligule short, truncate; sheath glabrous, finely striate, densely ciliated on margin, cilia of the mouth long.

Nom. Jap. *Oroshima-chiku*

Hab. Japan.

This is commonly cultivated in gardens, and have the gracile culms and small leaves. The wild form (Fig. III.), which was just recently discovered by Mr. K. Hisauchi, is mostly much larger, the culm attaining about $2\frac{1}{2}$m. in height and 1cm. in diameter; the blade of leaves are usually plicate, and mainly firmly chartaceous; sheaths are often flabellately disposed.

var. Akebono Makino.

Arundinaria variabilis var. Akebono Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

A dwarf and pretty bamboo. Culm slender, gracile, attaining several inches in height, ramose. Leaves approximate, narrowly lanceolate or linear-lanceolate, acuminate, rounded or obtuse at the base, glabrous, thinly chartaceous, green but usually shaded with white on the upper surface in the lower ones, the largest one about 7½ cm. long, 1cm broad.

Nom. Jap. *Akebono-zasa.*

Hab. Japan, gardens, rare.

Fig. IV. ½

Arundinaria graminea Makino, nom. nov.

Bambusa graminea Hort.

Arundinaria Hindsii var. graminea Bean in Gard. Chron. 3rd. Ser. XV. (1894) p. 238; Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Nom. Jap. *Taimin-chiku.*

Hab. Japan, cultivated.

Very closely approaches to *A. linearis* Hack. of Liukiu. It is also allied to *A. Hindsii* Munro, but the culm very much densely tufted and very finely striated on the surface, and darkish green in colour, while in that of *A. Hindsii* Munro

the striation is obscure and brilliant green in colour, the branches weaker, and the leaves narrower.

Arundinaria fastuosa (Mitf.) Makino, nom. nov. (Fig. IV.)

Bambusa fastuosa Mitf. Bamb. Gard. p. 105.

Arundinaria Narihira Makino in Bot. Mag., Tokyo, XI. (1897), p. 159, et XIV. (1900), p. 63 (Jap.).

Bambos narihiratake Sieb. Syn. Pl. Oecon. Jap. p. 5.

Nom. Jap. *Narihira-dake.*

Hab. Japan, wild and planted.

var. Yasha-dake Makino. (Fig. V.)

Arundinaria Narihira forma Yashadake Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Nom. Jap. *Yasha-dake.*

Hab. Japan, wild and planted.

I have got the flowering specimens of both the type and the variety, which will be described in the forecoming number of this Magazine.

Phyllostachys reticulata (Rupr.) C. Koch, Dendrol. II. 2, p. 358. (Fig. VI.)

FIG. V. $\frac{1}{2}$

Bambusa reticulata Rupr. Bamb. Monogr. in Mém. Acad. Pétersb. Sér. 6, V. (1839), p. 148.

Phyllostachys bambusoides Sieb. et Zucc. in Abh. Akad. Muench. III. 2, p. 746, tab. 5, fig. 3; Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Phyllostachys megastachya Steud. in Flora (1846), p. 21, et Syn. Gram. p. 339.

Phyllostachys macrantha Sieb. et Zucc. in Flora (1846), p. 34.

Bambusa bifolia Sieb. ex Munro in Trans. Linn. Soc. XXVI. p. 36.

Bambos matake Sieb. Syn. Pl. Oecon. Jap. p. 4.

Bambusa Quilioi Hort. ex A. et C. Rivière, Bambous, p. 241.

Phyllostachys Quilioi A. et C. Rivière, l. c. p. 241, figg. 25–27.

Phyllostachys Mazeli Hort. ex A. et C. Rivière, l. c.

Bambusa Duquilioi Hort.

Nom. Jap. *Madake.*

Hab. Japan, common, cultivated and in escape, not in wild.

forma Kashirodake Makino.

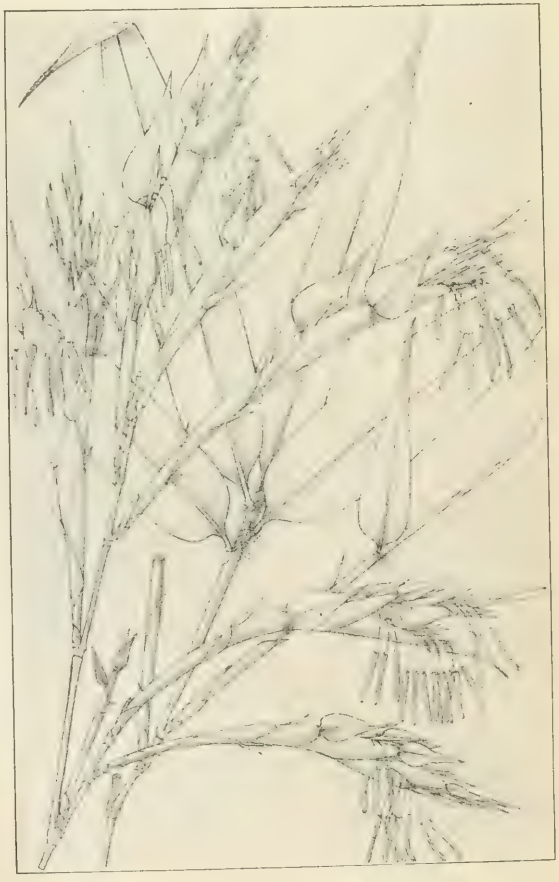

FIG. VI. $\frac{2}{3}$

Phyllostachys

bambusoides forma Kashirodake Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Culm-sheath not blotched or more or less so. Others as in the type.

Nom. Jap. *Kashiro-dake* (White-sheathed Bamboo), *Shira-take*.

Hab. Prov. CHIKUGO in Kiusiu, cultivated.

A mere form of the type.

var. Marliacea Makino.

Bambusa Marliacea Hort.

Phyllastachys Marliacea Mitf. Bamb. Gard. p. 158.

Phyllastachys bambusoides var. Marliacea Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Nom. Jap. *Shibo-chiku, Shiwa-chiku* (Wrinkly Bamboo).

Hab. Japan, cultivated, rare.

var. Castillonis Makino.

Bambusa Castillonis Hort.

Phyllostachys Castillonis Mitf. Bamb. Gard. p. 152.

Phyllostachys bambusoides var. Castillonis Makino in Bot. Mag., Tokyo, XIV. (1900), p. 63 (Jap.).

Bambos Kinmeitsik Sieb. Syn. Pl. Oecon. Jap. p. 5.

Nom. Jap. *Kinmei-chiku.*

FIG. VII.½

Hab. Japan, cultivated.

var. aurea Makino.

Bambusa aurea Hort. ex A. et C. Rivière, Bambous, p. 262.

Phyllostachys aurea A. et C. Rivière, l. c.

Phyllostachys bambusoides var. aurea Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Bambos hoteitsik Sieb. Syn. Pl. Oecon. Jap. p. 6.

Nom. Jap. *Hotei-chiku, Gosan-chiku, Kosan-chiku.*

Hab. Japan, spontaneous and cultivated.

Phyllostachys edulis (Carrière) A. et C. Rivière, Bambous, (1878), p. 183. (Fig. VII.)

Bambusa edulis Carrière in Rev. Hortic. (1866), p 380; A. et C. Rivière, l. c. p. 231.

Bambusa mitis Hort. ex Carrière, l. c., non Poir.

Phyllostachys mitis A. et C. Rivière, l. c. p. 231, figg. 22–23; Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.), et XV. (1901), p. 68, non *Bambusa mitis* Poir.

Bambusa mosoo Zoll. Syst. Verz. I. (1854), p. 57.

Bambos moosôo Sieb. Syn. Pl. Oecon. Jap. (1830), p. 5.

Nom. Jap. *Môsô-chiku.*

Hab. Japan, cultivated.

This large bamboo was introduced from China formerly; it flowers, however, extremely rarely in Japan. My Herbarium is lucky to be in possession of the floriferous specimens.

var. heterocycla (Carrière) Makino.

Bambusa heterocycla Carrière in Rev. Hortic. (1878), p. 354.

Phyllostachys heterocycla Mitf. Bamb. Gard. p. 160 cum icon.

Phyllostachys mitis var. heterocycla Makino in Bot. Mag., Tokyo, XIII. (1899), p. 267, XIV. (1900), p. 64 (Jap.), et XV. (1901), p. 70.

Nom. Jap. *Kikkô-chiku* (Tortoise-shell Bamboo).

Hab. Japan, only cultivated.

A monstrous form.

(*To be continued.*)

Observation on the Flora of Japan.

(*Continued from p. 22.*)

By

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Imperial University of Tokyo.

Sasa Tsuboiana Makino, sp. nov.

Rhizome hypogæous, repent, slender, rooting at nodes. Culm ascending or erect, attaining about 2m. in height, simple, but in age loosely ramose above, slender, terete, fistulose, smooth, glabrous, green, encircled with culm-sheaths and then bare from them in age, attaining about 5½mm. in diameter; nodes slightly prominent; internodes attaining about 19cm. in length; branches solitary to a node, usually encircled with sheaths. Leaves medium-sized, 3–10 to a branch and approximately distichously and submalmately arranged towards the apical end, oblong-lanceolate to narrowly lanceolate, acuminate with a very sharp point, rounded to acute at the base and decurrent to the short flat petiole, which is about 3–10mm. in length, chartaceous or coriaceo-chartaceous, glabrous on both surfaces, green above, paler beneath, spinuloso-scabrous on margins, 8–27cm. long, 2¼–6cm. broad, sempervirent; midrib slender, prominent beneath, pale-stramineous; veins 6–10 on each side, fine; veinlets minutely and very numerously tessellate between veins; ligule very short, erect, truncate or rounded-truncate, ciliato-scabrous on margin, thinly coriaceous, puberulent dorsally, about 1–1½mm. long; sheath narrow, striate, glabrous, viridescent and often shaded with purple, setoso-fimbriato-auricled or merely setoso-fimbriate at the mouth and then naked from the deciduousness of the setæ.

Nom. Jap. *Tsuboi-zasa, Ibuki-zasa.*

Hab. Prov. Ômi : Mt. Ibuki (*T. Makino* ! September 1905); Prov. Mino : Ikeno, planted (*T. Makino* ! September 1905).

It is allied to *Sasa paniculata* (Fr. Schm.) Makino et Shibata, but much smaller in every portion, and it has the about same size with *S. nana* Makino et *S. nipponica* Makino et Shibata. The inflorescence similar to that of *S. nipponica* Makino et Shibata.

This bamboo was first collected by myself on Mt. Ibuki as above mentioned, but I named this bamboo in memory of Mr. Isuke Tsuboi, of Kusafuka in the province of Mino, well known in his bamboo gardens.

Phyllostachys reticulata (Rupr.) C. Koch, Dendrol. II. 2, p. 358.

Phyllostachys bambusoides Sieb. et Zucc. in Abhandl. Akad. Muench. III. 2, p. 746, tab. 5, fig. 3.

forma albo-variegata Makino, nov.

Leaves albo-variegated. Otherwise as in the type.

Nom. Jap. *Okina-dake.*

Hab. Japan, cultivated, very rare.

forma subvariegata Makino, nov.

Leaves variegated with light green. Otherwise as in the type.

Nom. Jap. *Konshima-zasa* (after Isuke Tsuboi).

Hab. Japan, cultivated, very rare.

var. sulphurea Makino.

Bambusa sulphurea Hort.

Phyllostachys sulphurea A. et C. Rivière, Bambous, p. 285; Nichols. Cent. Suppl. Dict. Gard. (1900), p. 599.

Culm yellow. Leaves green or more or less albo-variegated. Otherwise as in the type.

Nom. Jap. *Ôgon-chiku* (Golden Bamboo), *Kin-chiku* (Golden Bamboo).

Hab. Japan, cultivated, rare.

Phyllostachys nigra (Lodd.) Munro, Monogr. Bamb. in Trans. Linn. Soc. XXVI. (1867), p. 38.

Bambusa nigra Lodd. Cat. (1823).

Phyllostachys puberula var. nigra Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Bambusa puberula Miq. Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Bat. II. p. 285, pro parte.

Arundinaria stolonifera Kurz.

Arundinaria diversifolia Kurz.

Bambos kurotake Sieb. Syn. Pl. Oecon. Jap. p. 5.

Nom. Jap. *Kuro-chiku.*

Hab. Japan, cultivated.

forma nigro-punctata Makino.

Bambusa nigro-punctata Hort.

Phyllostachys nigro-punctata Mitf. Bamb. Gard. p. 146.

Phyllostachys nigra nigro-punctata Nichols. Cent. Suppl. Dict. Gard. (1900), p. 599.

Phyllostachys puberula var. nigra forma nigro-punctata Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Phyllostachys nigra var. punctata Bean in Gard. Chron. 3rd. Ser. XV. 1, p. 431.

Nom. Jap. *Goma-dake.*

Hab. Japan, cultivated.

Less common than the type.

var. Henonis Makino.

Bambusa Henonis Hort.

Phyllostachys Henonis Bean, l. c. p. 238 ; Mitf. l. c. p. 149.

Phyllostachys Fauriei Hackel in Bull. Herb. Boiss. VII. p. 718.

Bambos hatsik Sieb. l. c. p. 5.

Bambusa puberula Miq. l. c. p. 285, pro parte.

? *Phyllostachys puberula* Munro.

Phyllostachys puberula Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Culm sometimes attaining about 10m. in height and about 10cm. in diameter when well developed.

Nom. Jap. *Ha-chiku.*

Hab. Japan, cultivated and in escape.

In Japan this bamboo is not found spontaneously !

forma Boryana Makino.

Bambusa Boryana Hort.

Phyllostachys Boryana Bean, l. c. p. 238.

Phyllostachys puberula var. Boryana Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Phyllostachys nigra Boryana Nichols. l. c.

Nom. Jap. *Unmoñ-chiku, Tamba-hanchiku.*

Hab. Japan, cultivated.

forma albo-variegata Makino.

Phyllostachys puberula forma albo-variegata Makino in Bot. Mag., Tokyo, XIV. (1900), p. 64 (Jap.).

Leaves albo-variegated. Otherwise as in *var. Henonis* Makino.

Nom. Jap. *Shima-hachiku* (T. Makino).

Hab. Japan, cultivated, rare.

Arundinaria fastuosa (Mitf.) Makino in Bot. Mag., Tokyo, XXVI. (1912), p. 19, fig. 4.

var. Yashadake Makino, l. c. fig. 5.

Rhizome hypogæous, widely repent, slender, solid, terete, smooth, stramineous or pale-stramineous, ½–2cm. across, strongly rooting at nodes; internodes not long, alternately with a bud and a groove on one side, 1½–7cm. long; nodes more or less prominent. Culm more slender than it of the type, about 2–8m. high, ½–2½cm. across, ramose above, green or more or less shaded with purple, rarely laxly blotched by frostbite; internodes longer, attaining about 36cm. in length, the superior ones flatly subfurrowed on one side and subsemiterete below; nodes prominent; main branches 3 to a culm-node, short; branchlets often dense in age. Leaves few to several or subnumerous to an ultimate branchlet, lanceolate, acuminate, rounded or obtuse at the base, scabrous on margins but ciliated towards the base, chartaceous, glabrous on both surfaces, green above, subglaucous but viridescent towards one edge beneath, attaining 28cm. in length and 5cm. in width; veins 6–9 on each side of the slender midrib; veinlets finely tessellate; sheath densely ciliated on one margin, the mouth

at first fimbriate.

Nom. Jap. *Yasha-dake* (after I. Tsuboi).

Hab. Prov. Mino: Kusafuka, garden of I. Tsuboi, cultivated from the side of Yasha-ga-ike, an alpine pond (*T. Makino* ! Aug. 1899); Prov. Musashi: Komaba, cultivated (*T. Makino* ! June 21, 1900, Oct. 1900, Dec. 1911), Tokyo, cultivated (*T. Makino* ! Nov. 1906, March 1907, May 14, 1907); Prov. Hitachi: Mt. Tsukuba, spontaneous(*T. Makino* ! May 1900); Prov. Sado: Near Kawarada (*K. Usui* ! July 1900).

This variety is readily to be distinguished from the type by the more slender culm, elongated internodes, loose branches, and broader leaves.

Arundinaria variegata (Sieb.) Makino in Bot. Mag., Tokyo, XXVI. (1912), p. 15.

Bambusa variegata Sieb. ex Miq. Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Batav. II. (1865–66), p. 285.

Bambusa Fortunei Van Houtte, Fl. des Serres, XV. tab. 1535 (1863).

var. Tanakae Makino, l. c. p. 16.

Culms densely crowded, erect, attaining about 2½m. in height and 5½mm. in diameter, slender, simple or laxly branched, encircling with coriaceous glabrous sheaths and then bare from them in age, terete, fistulose, smooth, green; internodes about 10–22cm. long; nodes somewhat prominent, pubescent or glabrous; culm-bud narrow and pubescent. Leaves placed towards the top of the culm, approximate, lanceolate, but narrowly lanceolate or linear-lanceolate in the superior ones, more or less abruptly acuminate at the apex, rounded or obtuse at the base but attenuated in the superior ones, shortly petiolate, scabrous on margins, chartaceous, glabrous on both surfaces, green above, slightly pallid beneath, mainly decaying and deciduous in winter, 8–25cm. long, 8–30mm. broad; veins 3–7 on each side of the midrib; venules finely tessellate; ligule short and truncate; sheath glabrous, finely striate, naked or ciliated on margins, fimbriato-ciliated at the mouth.

Nom. Jap. *Sudare-yoshi* (Blind-Reed).

Hab. Prov. Iyo in Shikoku; Prov. Bungo in Kiusiu.

The culm is much slender and straight, and is used especially for the manufacture of the best quality of blind.

I have named this useful bamboo in honour of Mr. Yoshio Tanaka, a member of the House of Peers, renowned in the Economical Botany and Zoology of Japan.

Shortia soldanelloides (Sieb. et Zucc.) Makino in Bot. Mag., Tokyo, XXI. (1907), p. 31.

Schizocodon soldanelloides Sieb. et Zucc. in Abhandl. Akad. Muench. III. 2, p. 725, tab. 2, fig. 1.

forma alpina (Maxim.) Makino, l. c.

Schizocodon soldanelloides forma alpina Maxim. in Mél. Biol. VIII. p. 20.

b. minima Makino, nov.

Rhizome elongate, slender, repent, loosely ramose, rooting. Leaves tufted (tuft about 1½–3cm. in diameter), spreading, petiolate; blade orbicular, entire or obsoletely few-crenate towards the apex, coriaceous, green, pauci-veined, 3–10mm. in each way; petiole gracile, very short or attaining about 9mm. in length. Scape erect, much exserted, attaining about 3cm. in height, gracile, glabrous, 1–2-bracteate near the flower; bract small, narrow, obtuse, 2½–3mm. long. Flower solitary (in my specimens), erect. Calyx 6–8mm. long. Style erect, exserted.

Nom. Jap. *Hime-koiwakagami* (nov.).

Hab. Prov. Ôsumi: Mt. Miyanoura-dake in Isl. Yakushima (*T. Makino*! Sept. 1909).

This locality is the southern limit of the species.

(*To be continued.*)

Plantæ Millsianæ Koreanæ.

enumerantur a **T. Nakai.**

250 species hic enumeratæ, ex Dr. RAEPH G. MILLS, incola Kangkaiensis (Korea septentrionalis), mihi ad determinationem misæ sunt. Hæ plantæ maxime circa locum citatum lectæ sunt, continentque 16 (7 pro cent.) ad floram Koreanam novas species, et unam novam species atque varietatem. Fere omnes (præter 8 species) in Manshuria incolunt, sed 53 (25 pro cent.) earundem in Japonia nondum inveniuntur.

I. Ranunculaceæ.

1) **Clematis instricta** BUNGE. NAKAI Fl. Kor. I. 7.
Seu Tang. 9 / 30 / 1910. No. 389.

*2) **Thalictrum simplex** L. var. **affine** REGEL (ノカラマツ)
Kangkai 7 / 28 / 1910. No. 356.

3) **Anemone Raddeana** REGEL (アヅマイチゲ) NAKAI l. c. I. 20 II. 430.
Kangkai 5 / 9 / 1911. No. 43.
Kai Aw Gai Pass. 4 / 16 / 1910. No. 355.

4) **Anemone baicalensis** TURCZ. (バイカルイチゲ) NAKAI l. c. II. 429.
Kangkai 5 / 9 / 1911. No. 326.

5) **Anemone Rossi** S. MOORE NAKAI l. c. I. 20.
Kangkai 5 / 13 / 1911. No. 330.

6) **Ranunculus Tachiroei** FRAN. et SAV. (ヲトコゼリ) NAKAI l. c. I. 22.
Kangkai 6 / 20 / 1910. No. 474.

7) **Eranthis stellata** MAXIM. NAKAI l. c. II. 431.
Kangkai 5 / 13 / 1911. No. 331.

8) **Aconitum Anthora** L. NAKAI l. c. I. 26.
Seu Tang 9 / 30 / 1910. No. 391.

*Plantæ novæ ad Floram Koreanam.

9) **Aconitum Kusnezoffi** Reichb. Nakai l. c. I. 32.
Seu Seu 8/15/1909. No. 398.

II. Berberidaceæ.

10) **Caulophyllum thalictroides** Michx. (ルキエフボタン) Nakai l. c. I. 43.
Kangkai 5/18/1911. No. 334.

III. Papaveraceæ.

11) **Corydalis ochotensis** Turcz. forma **Raddeana** Nakai (ツルキケマン) l. c. II. 438.
Siu Tang 10/2/1910. No. 399.

IV. Cruciferæ.

12) **Arabis hirsuta** Scop. (オホイハハタザホ) Nakai l. c. I. 54 II. 440.
Kangkai 6/5/1911. No. 321.

13) **Arabis pendula** L. (エゾハタザホ) Nakai l. c. I. 53. II. 440.
Kangkai 7/4/1911. No. 468.

14) **Cardamine flexuosa** With (タネツケバナ) Nakai l. c. II. 441.
Kangkai 5/9/1911. No. 325.
,, 5/20/1909. No. 369.

*15) **Cardamine pratensis** L. v. **grandiflora** Gilb. Schulz in Engl. Bot. Jahrb. XXXII. 536.
Kangkai 5/13//1911. No. 332.

16) **Raphanus sativus** L. (ダイコン) Nakai l. c. I. 62.
Kangkai 7/6/11. No. 354.

V. Violaceæ.

17) **Viola chinensis** Don. (スミレ) Nakai l. c. II. 446.
An Ju 4/24/1910. No. 373.

18) **Viola phalacrocarpa** Maxim. (アケボノスミレ) Nakai l. c. I. 70. II. 446.
An Ju 4/24/1910. No. 374.
Kangkai 4/12/1910. No. 384.

19) **Viola variegata** Fischer (ゲンジスミレ) Nakai l. c. I. 69. II. 446.

Kangkai 6 / 20 / 1909. No. 375.

20) **Viola pinnata** L. v. **chaerophylloides** Regel (エゾスミレ) Nakai l. c. II. 445.

Kangkai 5 / 10 / 1910. No. 376.

21) **Viola hirtipes** S. Moore (サクラスミレ) Nakai l. c. I. 70. II. 446.

Kangkai 4 / 16 / 1210. No. 385.

22) **Viola acuminata** Ledeb (エゾタチツボスミレ) Nakai l. c. II. 445.

Kangkai 6 / 20 / 1909. No. 382.

23) **Viola uniflora** L. (キスミレ) Nakai l. c. I. 64. II. 445.

Kangkai 4 / 28 / 1910. No. 378.

24) **Viola verecunda** A. Gray (ツボスミレ) Nakai l. c. I. 65. II. 445.

Kangkai 6 / 6 / 1909. No. 386.

VI. Caryophyllaceæ.

25) **Silene capitata** Kom. Nakai l. c. I. 77.

Kankai 7 / 16 / 1911. No. 349.

26) **Stellaria longifolia** Muel. (ナガバツトクサ) Nakai l. c.II. 450.

Kangkai 6 / 15 / 1911. No. 305.

27) **Stellaria radicans** L. (エゾオホヤマハコベ) Nakai l. c. II. 450.

See Chun Tang 8 / 11 / 1910. No. 402.

28) **Dianthus superbus** L. (カハラナデシコ) Nakai l. c. I. 84.

Seu Seu 8 / 18 / 1909. No. 357.

VII. Guttiferæ.

29) **Hypericum attenuatum** Chois. Nakai l. c. I. 95. II. 453.

Kangkai 7 / 6 / 1911. No. 426.

VIII. Dilleniaceæ.

30) **Actinidia Kolomikta** Rupr. (ミヤママタタビ) Nakai l. c. I. 98.

Kangkai 6/20/1909. No. 372.

IX. Tiliaceæ.

31) **Tilia amurensis** Kom. Nakai l. c. I. 105.

Kangkai 6/20/1909. No. 490.

X. Balsaminaceæ.

32) **Impatiens furcillata** Hemsl. Nakai l. c. 109. II. 455.

An Ju. 9/27/1910. No. 448.

XI. Linaceæ.

33) **Linum stellarioides** Pl. (マツバニンジン) Nakai l. c. I. 106.

Kangkai 8/8/1910. No. 433.

XII. Celastraceæ.

34) **Celastrus orbiculates** Thunb. (ツルウメモドキ) Nakai l. c. II. 458.

Kangkai 8/8/1910. No. 454. ibidem 6/5/1911. No. 315.

Siu Tang 9/30/1910. No. 390.

35) **Euonymus macroptera** Maxim. (ヒロハノツリバナ) Nakai l. c. II. 459.

Kangkai 4/18/1911. No. 336.

36) **Euonymus alata** S. et Z. v. **striata** Makino (コマユミ) Nakai l. c. I. 121. II. 459.

Kangkai 10/15/1910. No. 438.

37) **Euonymus Bungeana** Maxim. Nakai l. c. II. 459.

Kangkai 10/5/1910. No. 439.

XIII. Rhamnaceæ.

38) **Rhamnus parvifolia** Bunge. Nakai l. c. I. 126. II. 460.

Kangkai 8/1 1910. No. 452.

39) **Rhamnus globosus** Bunge. Nakai l. c. I. 126.

Kangkai 10/15/1910. No. 439.

Han San monastery 10/2/1910. No. 419.

40) **Zizyphus vulgaris** L. v. **spinosus** Bunge. (サヲブトナツメ) Nakai l. c. II. 461.

Pyeng Yang.

XIV. Ampelidaceæ.

41) **Ampelopsis heterophylla** Bunge (ノブダウ) Nakai l. c. II. 462.

Kangkai 8/8 1910. No. 341. ibidem 7/6/1911. No.

42) **Quinaria tricuspidata** Koehne (ツタ) Nakai l. c. II. 462.

Pyeng Yang 8/151/1910. No. 342.

43) **Vitis vinifera** L. (ブダウ) Nakai l. c. I, 128. II. 461.

Kangkai 6/5 1911. No. 310.

XV. Aceraceæ.

44) **Acer Ginnala** Maxim (カラコギカヘデ) Nakai l. c. I. 134. II. 462.

Kangkai 7/7/1911. No. 420. 7/4/1911. No. 421. 8/3/1911. No. 495.

XVI. Leguminosæ.

45) **Crotalaria sessiliflora** L. (タヌキマメ) Nakai l. c. I. 144. II. 464.

Pyeng Yang 9/30/1910. No. 430.

46) **Indigofera Kirilowi** Maxim. Nakai l. c. I. 148. II. 465.

Whee chun 10/3/1909. No. 461.

47) **Astragalus dahuricus** DC. Nakai l. c. I. 149.

Cheel sau 10/2/1910. No. 482.

48) **Vicia unijuga** Al. Br. (ナンテンハギ) Nakai l. c. I. 159.

See chun 8/11/1910. No. 459.

Kangkai 8/10/1910. No. 361.

49) **Vicia venosus** (Willd.) Maxim. var. **baicalensis** Turcz. (ヒロハノエビラハギ) Nakai l. c. II. 467.

Kangkai 6/6/1910. No. 360.

Rosaceæ.

50) **Stephanandra incisa** Zabel (コゴメウツギ) Nakai l. c. I. 170. II. 471.

Kangkai 7/26/1910. No. 367.

*51) **Spiræa chamædrifolia** L. (シロバナシモツケ) Sp. Pl. 489. Regel Tent. Fl. Uss. n. 150. Kom, Fl. Mansh. II. 457.

Kangkai 5/18/1911. No. 329. 7/25/11. No. 498.

52) **Spiræa pubescens** Turcz. Nakai l. c. I. 172. II. 472.

Kangkai 5/19/1909. No. 370.

53) **Aruncus silvester** Kostel (ヤマブキショウマ) Nakai l. c. I. 174. II. 473.

Kangkai 6/8/1910. No. 307.

54) **Sorbaria sorbifolia** A. Br. (ホザキノシモツケ) Nakai l. c. I. 175. II. 473.

Kangkai 8/6/1910. No. 414.

55) **Cratægus pinnatifida** Bunge (オホサンザシ) Nakai l. c. I. 179. II. 473.

Kangkai 10/3/1909. No. 417.

56) **Pyrus sinensis** Lindl. var. **ussuriensis** (Maxim.) Makino (イヌナシ) Nakai l. c. II. 474.

Kangkai 6/10/1910. No. 467.

57) **Pyrus baccata** L. (エゾノコリンゴ) Nakai l. c. II. 474.

Cheel San 10/2/1910. No. 436.

Kangkai 6/15/1911. No. 303.

58) **Micromeles alnifolia** Koehne (アズキナシ) Nakai l. c. II. 474.

Whee chun 10/3/1909. No. 489.

59) **Potentilla Kleiniana** Waldst. et Kit. (オヘビイチゴ) Nakai l. c. I. 198. II. 478.

Kangkai 6 / 15 / 1911. No. 306.

60) **Exochorda serratifolia** S. Moore Nakai l. c. II. 473.

Kangkai 6 / 20 / 1909. No. 415.

*61) **Filipendula rufinervis** Nakai sp. nov.

Differt a *F. Kamtschatica* quæ proxima est, lobis foliorum lateralibus evolutis, terminalibus palmato-partitis; et a *F. augustiloba* nervis foliorum subtus rufo-puberulis, lobis lateralibus oligomeris.

Circiter tripedalis. Caulis multicostatis. Folia radicalia elongata, lobo terminale maximo palmato–7–partito, lobis angustelanceolatis acuminatis, duplicato-serratis, supra glaberrimo, subtus rufo-pubescente; lolis lateralibus 2–3 jugis versus apice accrescentibus trifidis, supremis 7–8cm. longis. Petala alba. carpella hispidula et sessilia ut in *F. Kamtschatica*.

Kangkai 7 / 6 / 1911. No. 424.

62) **Sanguisorba officinalis** L. (ワレモカウ) Nakai I. 203. II. 481.

Kangkai 8 / 6 / 1910. No. 447.

63) **Rosa davurica** Pall. Nakai I. 207. II. 481.

Kangkai 6 / 15 / 1911. No. 308.

64) **Rosa Fauriei** Level. et V'nt. Nakai II. 482.

Kangkai 7 / 16 / 1909. No. 345.

65) **Prunus tomentosa** Thunb. (ユスラウメ) Nakai I. 212. II. 482.

Kangkai 5 / 13 / 1911. No. 333.

66) **Prunus serrulata** Lindl. (ヤマザクラ)

Hansan monastery 6 / 6 / 1910. No. 439.

XVIII. Saxifragaceæ.

67) **Astilbe chinensis** (Maxim.) Fran. et Sav. (カラチダケサシ) Nakai. l. c. II. 484.

syn. *A. chinensis* v. *seoulensis* Nakai I. 216.

Kangkai 8 / 3 / 1911. No. 478.

68) **Saxifraga sarmentosa** L. (ユキノシタ) Nakai I. 219.

Han San monastery 10 / 2 / 1910. No. 392.

69) **Chrysosplenium flagelliferum** Fr. Schmidt. (コバノネコノメサウ) Nakai II. 415.

Kangkai 5 / 9 / 1911. No. 328.

70) **Parnassia palustris** L. (ウメバチサウ) Nakai I. 220. II. 485.

Han San monastery 10 / 2 / 1910. No. 397.

71) **Deutzia parviflora** Bunge. Nakai I. 222. II. 486.

Kangkai 5 / 20 / 1909. No. 368.

XIX. Crassulaceæ.

72) **Sedum verticillatum** L. (ミツバベンケイサウ) Nakai I. 231. II. 487.

Han San monastery 10 / 2 / 1910. No. 393.

73) **Cotyledon japonica** Maxim. (ツメレンゲ) Nakai I. 232.

Whee chun 10 / 4 / 1010. No. 442.

XX. Halorhaginaceæ.

*74) **Myriophyllum verticillatum** L. (フサモ) Sp. Pl. 1410. Kom. Fl. Mansh III. 112.

Kangkai 7 / 16 / 1911. No. 350.

*75) **Myriophyllum spicatum** L. (ホザキノフサモ) Sp. Pl. 1409. Fran. et Sav. Enum. Pl. Jap. I. 65.

Kangkai 6 / 16 / 1911. No. 348.

XXI. Callitrichaceæ.

*76) **Callitriche japonica** Engelm. (アワゴケ) in Hegelm. Beitrag. Wasserst. 113. Fran. et Sav. Enum. Pl. Jap. II. 369. Kom. Fl. Mansh. II. 697.

Kangkai 7 / 6 / 1911. No. 347.

XXII. Oenotheraceæ.

*77) **Circæa alpina** L. var. **caulescens** Kom. Fl. Mansh. III. 99.

Chosan 8 / 12 / 10. No. 387.

XXIII. Umbelliferæ.

78) **Sanicula elata** Hamilt. (ウマノミツバ) Nakai I. 253.

Kangkai 7/6/1911. No. 346.

79) **Anthriscus silvester** Hoffm. (シャク) Nakai I. 254. II. 490.

Kangkai 7/16/1910. No. 472.

80) **Cryptotænia japonica** Hassk. (ミツバ) Nakai I. 258.

Kangkai 7/16/1911. No. 35.

81) **Cnidium Monnieri** Cuss. Nakai I. 264.

Kangkai 7/12/1910. No. 470.

82) **Peucedanum terebinthaceum** Fischer (ヤマニンジン) Nakai I. 266.

Kangkai 7/16/1910. No. 359.

83) **Angelica cartilagino-marginata** Nakai I. 269.

Kangkai 8/2/1910. No. 471.

XXIV. Araliaceæ.

84) **Acanthopanax sessiflorus** (Rupr. et Maxim.) Seem. Nakai I. 275.

Myun Maun Tang 10/4/1910. No. 444.

*85) **Eleutherococcus senticosus** Maxim. Prim. Fl. Amur. 132. Kom. Fl. Manch. III. 119.

Kangkai 10/15/1910. No. 434.

86) **Kalopanax ricinifolius** Miq. (ハリギリ) Nakai I. 275. II. 493.

Han San monastery near Wah Lun 10/1/1910. No. 340.

87) **Aralia chinensis** L. (タラノキ) Nakai I. 278.

Han San monastery 10/2/1910. No. 418.

XXV. Caprifoliaceæ.

88) **Viburnum davurium** Pall. Nakai I 285.

Kangkai 8/8/1910. No. 453, 6/6/1910. No. 450.

89) **Lonicera Maackii** Rupr. (ハナヘウタンボク) Nakai I. 289. II. 496.

Kangkai 8/4/1910. No. 441.

90) **Lonicera præflorens** Batalin Nakai II. 497.

Kangkai 5/13/1911. No. 428.

XXVI. Rubiaceæ.

91) **Rubia chinensis** Regel et Maack. (オホキメタサウ) Nakai I. 292. II. 503.

Kangkai 8/6/1910. No. 365.

92. **Rubia cordifolia** L. var. **pratensis** Maxim. Nakai I. 294.

Chosan 8/11/1910. No. 406.

93) **Galium verum** L. (キバナノカハラマツバ) Nakai I. 296. II. 499.

Kangkai 6/12/1910. No. 358.

94) **Asperula Platygalium** Maxim. var. **pratensis** Maxim. Nakai I. 299. II. 503.

XXVII. Valerianaceæ.

95) **Patrinia villosa** Juss. (オトコヘシ) Nakai I. 301. II. 503.

Kangkai 7/16/1911. No. 362.

96) **Patrinia scabiosæfolia** Fischer (オミナヘシ) Nakai I. 301. II. 504.

Kangkai 8/7/1910. No. 363.

97) **Valeriana officinalis** L. (カノコサウ) Nakai I. 302. II. 504.

XXVIII. Compositæ.

98) **Aster trinervius** Roxb. (コンギク) Nakai II. 10.

Quang Chee Pah Wee 10/3/1910. No. 488.

99) **Aster dauricus** Benth. Nakai. II. 11.

Kangkai 10/15/1910. No. 481. 10/3/1910. No. 409.

100) **Aster tataricus** L. (シヲン) Nakai II. 11.

Chosan 8/12/1910. No. 464.

101) **Aster hispidus** Thunb. (ヤマヂノギク) Nakai II. 9.

Kangkai 8/3/1910. No. 445.

102) **Aster incisus** Fischer Nakai II. 7.

Kangkai 8/6/1910. No. 410.

103) **Inula Salicina** L. (カセンサウ) Nakai II. 15.

Seu Seu 8/18/1909. No. 364.

104) **Adenocaulon bicolor** Hook. fil. var. **adhærescens** (Maxim.) Makino. (ノブキ) Nakai II. 18.

Han San monastery 10/2/1910. No. 394.

105) **Bidens bipinnata** L. Nakai II. 21.

Kangkai 7/28/1910. No. 485.

106) **Achillea Ptarmica** L. (エゾノコギリサウ) Nakai II. 21.

Chosan 8/11/1910. No. 405.

107) **Chrysanthemum indicum** L. var. **lavandulæfolium** (Fischer) Nakai (アブラギク) II. 25.

Kangkai 8/3/1910. No. 408.

108) **Chrysanthemum sibiricum** Fischer var. **acutifolia** DC. Nakai II. 24.

Myun Moun Tang. 10/4/1910. No. 440.

109) **Senecio argunensis** Turcz. Nakai II. 37.

Kangkai 8/3/1910. No. 443. See chun dong. 8/11/1910. No. 379.

110) **Atractylis ovata** Thunb. (オケラ) Nakai II. 39.

Whee chun 10/3/1909. No. 338.

111) **Saussurea manshurica** Kom. Nakai II. 44.

Myun Moun Tang 10/4/1910. No. 396.

112) **Saussurea japonica** DC. (ヒメヒゴタイ) Nakai II. 41.

Quang chee Pah Wee 9/30/1910. No. 487.

113) **Cirsium pendulum** Fischer Nakai II. 46.

Kangkai 10/15/1910. No. 483.

114) **Ainsliæa acerifolia** Sch.—Bip. (モミヂハグマ) Nakai II. 50.

Han San monastery 10/2/1910. No. 395.

115) **Gerbera Anandria** L. (センボンヤリ) Nakai II. 50.

Kangkai 5/20/1909. No. 366.

116) **Hieracium umbellata** L. (ヤナギタンポポ)

Nakai II. 58.

whee chun 10 / 2 / 1909. No. 461.

XXIX. Campanulaceæ.

117) **Campanula glomerata** L. (ヤツシロサウ) Nakai II. 63.

Cheel Sau 10 / 2 / 1910. No. 435.

118) **Adenophora verticillata** L. (ツリガネニンジン) Nakai II. 65.

Kangkai 8 / 3 / 1911. No. 476.

119) **Adenophora liliifolia** Fischer Nakai II. 68.

Kangkai 8 / 3 / 1911. No. 479.

XXX. Ericaceæ.

120) **Rhododendron davuricum** L. Nakai II. 75.

Kangkai 7 / 16 / 1911. No. 451.

XXXI. Primulaceæ.

121) **Lysimachia davurica** Ledeb. (クサレダマ) Nakai II. 83.

Kangkai 8 / 6 / 1910. No. 401.

XXXII. Symplocaceæ.

122) **Symplocos cratægoides** Ham. (サハフタギ) Nakai II. 85.

Kangkai 6 / 5 / 1911. No. 314. 6 / 6 / 1910. No. 371.

XXXIII. Asclepiadaceæ.

123) **Metaplexis japonica** (Thunb.) Makino (ガガイモ) Nakai II. 92.

Kangkai 8 / 6 / 1910. No. 412.

XXXIV. Gentianaceæ.

124) **Gentiana scabra** Bunge *α.* **Bungeana** Kusnez. Nakai II. 98.

Seu Seu 8 / 16 / 1909. No. 388.

125) **Swertia chinensis** Franch. (ムラサキセンブリ) Nakai II. 100.

Quang Chee Pah Wee 9/30/1910. No. 431.

XXXV. Solanaceæ.

126) **Solanum nigrum** L. (イヌホウヅキ) Nakai II. 112.

Kangkai 8/6/1910. No. 380.

XXXVI. Scrophulariaceæ.

127) **Mimulus tenellus** Bunge. Nakai II. 121.

Chosan 8/11/1910. No. 403.

128) **Veronica Anagallis** L. (カハヂサ) Nakai II. 128.

Kangkai 7/6/1911. No. 422.

129) **Veronica spuria** L. (ヤマトラノヲ) Nakai II. 128.

See Chun Tang 8/11/1910. No. 446.

130) **Veronica augustifolia** Fischer Nakai II. 129.

Pyuk Tang 8/13/1910. No. 480.

XXXVII. Pedaliaceæ.

*131) **Trapella chinensis** Oliver (ヒシモドキ) in Hook. Icones t. 1595. Kom. Fl. Mansh III. 465.

Siu An Ju 9/30/1910. No. 339.

XXXVIII. Phrymaceæ.

132) **Phryma leptostachya** L. (ハイドクサウ) Nakai II. 133.

Chosan 8/12/1910. No. 383.

XXXIX. Labiatæ.

133) **Plectranthus excisus** Maxim. (カメバサウ) Nakai II. 139.

See Chun Tang. 8/11/1910. No. 407.

134) **Mosla grosse-serrata** Maxim. (ミゾカウジユ) Nakai II. 145.

Kangkai 8/8/1910 No. 432. Pyuk Tang 8/13/1910. No. 458.

135) **Elscholtzia cristata** Willd. (ナギナタカウジユ) Nakai II. 146.

Kangkai 8/10/1910. No. 484.

136) **Lophanthus rugosus** Fischer et Mey. (カハミドリ) Nakai II. 149.

See Chun Dong 8/11/1910. No. 377.

137) **Mentha arvensis** L. (ハツカ) Nakai II. 152.

Kangkai 8/10/1911. No. 456.

138) **Leonurus macranthus** Maxim. (キセワタ) Nakai II. 155.

Kangkai 8/6/1910. No. 400.

139) **Amethystea cærulea** L. (ルリハツカ) Nakai II. 156.

Chosan 8/12/1910. No. 381.

XL. Polygonaceæ.

140) **Polygonum aviculare** L. v. **laxum** Ledeb. Nakai II. 166.

Kangkai 8/6/1910. No. 411.

141) **Polygonum sagittatum** L. var. **Sieboldii** (Meisn.) Maxim. (アキノウナギツカミ) Nakai II. 170.

See Chu Tang 8/11/1910. No. 465.

142) **Polygonum Thunbergii** Sieb. et Zucc. var. **stoloniferum** (Fr. Schmidt.) Kom. (ミゾソバ) Fl. Mansh. II. 130.

Syn. *P. stoloniferum* Fr. Schmidt Sachal. n. 366.

Pyuk Tang. 8/11/1910. No. 404.

143) **Polygonum minutiflorum** Nakai II. 172.

Kangkai 8/3/1911. No. 477.

144) **Rumex crispus** L. (ナガバギシギシ) Nakai II. 174.

Kangkai 6/15/1911. No. 304.

XLI. Euphorbiaceæ.

145) **Euphorbia lucorum** Rupr. Nakai II. 185.

Kangkai 5/18/1911. No. 335.

XLII. Ulmaceæ.

146) **Ulmus montana** With. var. **major** (Sm.) Gürck. (オヒヨウニレ) Nakai II. 190.

Kangkai 6/5/1911. No. 320. 8/4/1911. No. 497.

XLIII. Juglandaceæ.

147) **Juglans manshurica** Maxim. Nakai II. 200.

Kangkai 7/1/1911. No. 423.

XLIV. Fagaceæ.

148) **Quercus grosse-serrata** Bl. (ミヅナラ) Nakai II. 209.

Kangkai 6/10/1909. No. 492. 6/20/1911. No. 455.

149) **Quercus mongolica** Fischer Nakai II. 208.

Whee chun. 10/3/1909. No. 460.

150) **Quercus aliena** Bl. (ナラガシハ) Nakai II. 209.

Han San monastery 10/2/1910. No. 463. Myun Mun Tang. 10/4/1910. No. 416.

XLV. Salicaceæ.

151) **Populus tremula** L. (ヤマナラシ) Nakai II. 211.

Kangkai 6/11/1911. No. 311.

152) **Populus suaveolens** Fischer. (ドロノキ) Nakai II. 211.

Kangkai 6/15/1911. No. 493.

153) **Salix multinervis** Fran. et Sav. (コリヤナギ) Nakai II. 215.

Kangkai 5/18/1911. No. 429.

154) **Salix acutifolia** Willd. Nakai II. 215.

Kangkai 4/29/1911. No. 324.

155) **Salix glandulosa** Seem. Nakai II. 214.

Kangkai 6/5/1911. No. 313.

156) **Salix repens** L. Nakai II. 214.

Kangkai 4/28/1911. No. 512. 6/15/11. No. 302.

XLVI. Liliaceæ.

157) **Paris quadrifolia** L. v. **obovata** Regel et Til. (シロバナエンレイサウ) Nakai II. 241.

Kangkai 5/23/1911. No. 319.

158) **Asparagus oligoclonos** Maxim. Nakai II. 241.

Kangkai 6/1/1911. No. 318.

*159) **Streptopus amplexifolia** DC. (オホバノタケシマラシ) Fl. Fr. III. 174. Kom. Fl. Mansh. III. 476.

Kangkai 5/18/11. No. 337.

160) **Lloydia triflora** Baker. (ヒメアマナ) Nakai II. 255.

Kangkai 5/9/1911. No. 327.

161) **Allium tenuissimum** L. Nakai II. 260.

Seoul 9/5/1909. No. 473.

XLVII. Juncaceæ.

162) **Juncus effusus** L. (キ) Nakai II. 267.

Kangkai 6/15/11. No. 514. 7/25/1911. No. 561.

163) **Luzula campestris** L. v. **pauciflora** Buchenau (タカネスズメノヒエ) Nakai II. 269.

Kangkai 6/15/1911. No. 506.

164) **Luzula rufescens** Fischer. Nakai II. 269.

Kangkai 5/9/1911, No. 533. 5/13/1911. No. 535.

XLVIII. Alismataceæ.

165) **Alisma Plantago** L. (サジオモダカ) Nakai II. 273.

Kangkai 7/16/1911. No. 352.

XLIX. Potamogetonaceæ.

166) **Potamogeton pusillus** L. (イトモ) Nakai II. 279.

Kangkai 7/15/1911. No. 353.

L. Cyperaceæ.

167) **Cyperus amuricus** Maxim. (チャガヤツリ) Nakai II. 286.

Pyeng Yang 8/25/1909. No. 539.

*168) **Scirpus tabernæmontani** GMEL (フトキ) Fl. Bad. I. 101. MAXIM. Prim. Fl. Amur. 298. Kom. Fl. Mansh. I. 342.

Syn. *S. lacustris* REGEL Tent. Fl. Uss. n. 837. (non L.).
S. lacustris L. *β. digynus* GREN. et GODR. Fl. Fr. III. 372. FRAN. et SAV. Enum. Pl. Jap. II. 114.

Kangkai 7/16/1911. No. 552. 7/15/1911. No. 550.

169) **Scirpus Eriophorum** MICHX. NAKAI l. c. II. 293.

Kangkai 6/15/1911. No. 510.

170) **Elæocharis tetraquetra** NEES (シカクキ) NAKAI II. 297.

Kangkai 6/15/1911. No. 502.

171) **Carex rara** BOOTT. var. **biwensis** (FRAN.) KÜK. (マツバスゲ) NAKAI II. 302.

Kangkai 6/5/1911. No. 523.

172) **Carex neurocarpa** MAXIM. (ミヨシガヤ) NAKAI II. 304.

Pyuk Tang 8/13/1910. No. 563.

173) **Carex leiorhyncha** C. A. MEY. NAKAI II. 305.

Kangkai 6/15/1911. No. 505.

174) **Carex Maackii** MAXIM. NAKAI II. 306.

Kangkai 6/28/1911. No. 565.

175) **Carex nubigena** DON. *γ.* **ablata** (BOOTT.) KÜK. (チャボミノボロズゲ) NAKAI II. 305.

Kangkai 6/1/1911. No. 536.

176) **Carex appendiculata** (TRAUTV.) KÜK. NAKAI II. 310.

Kangkai 5/23/1911. No. 537.

177) **Carex heterolepis** BUNGE. NAKAI II. 310.

Kangkai 6/15/1911. No. 513.

178) **Carex glaucæformis** MEINSH. NAKAI II. 315.

Kangkai 7/6/1911. No. 567.

179) **Carex lanceolata** BOOTT. (ヒカゲスゲ) NAKAI II. 321.

Kangkai 6/5/1911. No. 520. 5/9/1911. No. 524. No. 526.

180) **Carex scabrifolia** STEUD. NAKAI II. 332.

Kangkai 6/1/1911. No. 521.

181) **Carex siderosticta** Hance (タカヲサウ) Nakai II. 322.

Kangkai 5/13/1911. No. 527.

182) **Carex drymophila** Turcz. Nakai II. 334.

Kangkai 6/28/1911. No. 566.

var. **akanensis** (Franch.) Kük. Nakai II. 335.

Kangkai 6/15/1911. No. 518.

183) **Carex breviculmis** R. Br. var. **Royleana** Kük. (アヲスゲ) Nakai II. 315.

Kangkai 7/1/1911. No. 554.

184) **Carex cæspitosa** L. Kük. Monogr. 328.

Kangkai 7/6/1909. No. 571. 5/10/1911. No. 556.

*185) **Carex gifuensis** Franch. var. **koreana** Nakai.

A typo differt, foliis culmis brevioribus (an semper?), subtus in nervis tantum pilosis.

Kangkai 6/20/1909. No. 570.

LI. Graminæ.

186) **Imperata arundinacea** Cyrill. var. **Kœnigii** Benth. (チガヤ) Nakai II. 338.

Kangkai 6/15/1911. No. 517.

187) **Miscanthus sinensis** Anders (ススキ) Nakai II. 339.

Pyeng Yang 9/24/1910. No. 544.

188) **Andropogon Nardus** L. var. **Goeringii** (Steudel) Hackel (ヲカルカヤ) Nakai II. 343.

Pyeng Yang 9/24/1910. No. 545.

189) **Zoysia pungens** Willd. (シバ) Nakai II. 344.

Kangkai 6/15/1911. No. 504.

190) **Arundinella anomala** Steudel (トダシバ) Nakai II. 345.

Kangkai 7/1/1911. No. 555.

191) **Pennisetum japonicum** Trin. (チカラシバ) Nakai II. 351.

Pyeng-yang 8/25/1909. No. 538. Kangkai 8/3/1911. No. 574.

var. **viridescense** Miq. (アヲチカラシバ) Nakai l. c.

Kangkai 8/8/1910. No. 548.

192) **Phalaris arundinacea** L. (クサヨシ) Nakai II. 352.

Kangkai 7/6/1911. No. 568.

193) **Hierochloe borealis** Roem. et Schult. (カウバウ) Nakai II. 353.

Kangkai 4/28/1911. No. 501.

194) **Alopecurus fulvus** Sm. (スズメノテツパウ) Nakai II. 355.

Kangkai 6/15/1911. No. 512.

195) **Calamagrostis villosa** Mutel (イハノガリヤス) Nakai II. 358.

Kangkai 7/6/1911. No. 569.

196) **Calamagrostis arundinacea** Roth. (ノガリヤス) Nakai II. 357.

Pyeng Yang 9/24/1910. No. 546.

197) **Calamagrostis Epigejos** Roth. (ヤマアハ) Nakai II. 357.

Kangkai 7/12/1910. No. 547.

*198) **Calamagrostis brachytricha** Steud. Gram. 189. Kom. Fl. Mansh. I. 281.

Syn. *C. varia* Maxim. Prim. Fl. Amur. 323.

C. robusta Franch. et Sav. Enum. Pl. Jap. II. 169. et 600.

Pyeng-yang 8/25/1909. No. 540.

199) **Agrostis scabra** Willd. (エゾヌカボ) Nakai II. 359.

Kangkai 7/25/1911. No. 560. 6/15/1911. No. 509. No. 507.

200) **Beckmannia eruciformis** Host. (ミノゴメ) Nakai II. 362.

Kangkai 6/15/1911. No. 503.

201) **Phragmitis communis** Trin. (ヨシ) Nakai II. 363.

whee chun. 10/3/1909. No. 564. 9/31/1909. No. 542.

202) **Panicum indicum** L. (ハヒヌメリ) Nakai II. 347.

Sui An Ju. 8/30/1910. No. 543.

203) **Melica nutans** L. (コメススキ) Nakai II. 368.

Kangkai 5/13/1911. No. 534.

204) **Glycerina aquatica** Sm. (ヒロハノドヂヤウツナギ) Naka. II. 369.

Kangkai 7/16/1911. No. 551.

205) **Poa trivialis** L. Nakai II. 371.

Kangkai 7/7/1911. No. 572.

206) **Poa pratensis** L. (ナガハグサ) Nakai II. 370.

Kangkai 7/1/1911. No. 553. 8/1/1911. No. 558. 7/25/1911. No. 559.

207) **Poa nemoralis** L. (タチイチゴツナギ) Nakai II. 372.

Kangkai 6/5/1911. No. 522.

*208) **Poa palustris** L. (イチゴツナギ) Sp. Pl. 98. Kom. Fl. Mansh. I. 302.

Syn. *P. serotina* Ehrh. Beiträg. VI. 98.

P. fertilis Host. Gram. Aust. III. 10 t. 15.

Kangkai 6/15/1911. No. 508.

209) **Agropyrum semicostatum** Nees, var. **ciliare** Hackel (カモヂグサ) Nakai II. 375.

Kangkai 6/15/1911. No. 511. No. 515. 7/1/1911. No. 555.

210) **Themeda Forskalii** Hackel. var. **major** subv. **japonica** Hackel. (カルカヤ) Nakai II. 342.

Seoul. 9/5/1909. No. 541.

211) **Spodiopogon sibiricus** Trin. (オホアブラススキ) Nakai II. 341.

Kangkai 7/25/1911. No. 562.

*212) **Phleum pratense** L. (オホアハガヘリ) Sp. Pl. 87. Steudel Syn. Glum. 150. Ledeb. Pl. Ross. IV. 457. Aschers. et Graeb. Syn. Mitteleurop. II. 141.

Kangkai 7/7/1911. No. 573.

LII. Taxaceæ.

213) **Taxus cuspidata** S et Z. (イチヰ) Nakai II. 384.

Seoul 9/15/1911. No. 344.

LIII. Pinaceæ.

214) **Juniperus rigida** S. et Z. (ネズ) Nakai II. 383.
Kangkai 6/10/1911. No. 309.
215) **Abies holophylla** Maxim. Nakai II. 381.
Kangkai 8/6/1910. No. 413.

(Finis).

On Some Celebes Plants.

By

Takiya Kawakami.

The flora of Celebes Island is one of the great interest, but was limited. Dr. S. H. Koorders made exploration in the northern part of the Island, and collected many interesting plants. Dr. Koorders' work was published on "Erste Overicht Flora Celebes"—Mededeelingen uit s'Lands Plantentuin No. XIX. Buitenzorg (1896).

I visited the Island in October 1911, and my collection of plant was made in the village of Maros only; the place was situated at thirty miles far from Makassar. Though the collection was a small quantities but it might be quite interesting. In November while I have been in the Herbarium of Buiteuzorg, I took the study of comparison of the plants and determined the names of some plants under the kind advice of Dr. Th. Valeton and Dr. S. H. Koorders. A few fern was determined by Mr. van Aldewerelt van Rosedburgh and he gave some description for the new Species. A list of my collection is following.

Thespesia populnea Saland.
Crescentia cujete L.
Anacardiumoccidentata L.
Ophiorhiza sp. (*n. sp.*)
Pluchea indica Less.
Luminitzera racemosa Willd.

Rhizophora mueronata LAM.
Hyptis capitata JACQ.
Hygrophila Sp.
Hemigraphis Sp.
Piper miniatum BL.
Phyllantus Emblica L.
Acalypha caturus BL.
Antidesma montanum BL.
Ficus Sp.
Boehmeria Sp.
Elatostema Sequifolium HASSK.
E. paludosum MIQ.
E. Sp.
Loranthus Sp.
Viscum articulatum BURM.
Homalamena pygmaea ENGL.
Pteris Sp.
Aspidium Kawakamii v. A. v. R. n. Sp.

A new fern was described by Mr. VAN ALDEWERELT van ROSENBURGH as follows.

Aspedium (Sagenia) **Kawakamii**, v. A. v. R., msc. Stipes ca 20 cm long, pale-brown, densely and finally but deciduously short-hairy, as is the rachis, sulcate down the face, somewhat scaly towards the base, the scales linear to subulate, entire, brown. Fronds ca 20 cm each way, 3-foliate. Terminal (central) pinna moderately longstalked, deeply 3-fid, the lowest lobes oblique, much elongated, lanceolate-falcate, ca 10 cm long, subcaudate-acuminate, irregularly repand, the central lobe broader than the lateral ones, lobed with short, rounded lobes; lateral pinnæ sessile or nearly so, forked on the lower side at the base, the base obliquely rotundate-subcordate, the segments similar to the lowest lobes of the terminal pinna, the posterior lobe the shortest. Texture firm; surfaces naked; costæ and costulæ finely hairy above, the hairs more or less dense; areolæ with numerous included free vein-lets. Sori numerous, distant, placed in 2 rather irregular rows between the main veins, terminal on short free veinlets, somewhat prominent on the upper surface, each encircled by a transparent patch of the parenchyma; indusium reniform, coriaceous, persistent.

Celebes (Maros, leg. T. KAWAKAMI).

December 14, 1911.

Botanical Museum,
Botanic Garden,
Besitenzorg,
Java.

Notes on Japanese Rosaceæ, V.

by

G. Koidzumi.

1) **Rubus spectabilis,** Pursh. Subsp. **vernus,** Focke, in Abh. Nat. ver. Bremen. IV. (1874) 407, Monogr. Rub. p. 143.

R. spectabilis, Miq. Prol. Fl. Jap. 222.

Nom. Jap. *Benibana-ichigo.*

Hab. Subalpinibus.

2) **Rubus cratægifolius,** Bge. Enum. Pl. Chin. Bor. (1835) p. 18.

R. Makinœnsis, Levl. Fedd. Repert. (1905) 174.

R. Itœnsis, Levl. et Vnt. Bull. Soc. Agr. Sarth. IX. (1905) 62.

Nom. Jap. *Sanzashiba-no-ichigo.*

Hab. Japonia.

3) **Rubus idæus,** L. Subsp. **melanolasius,** Focke, Monogr. Rub. 209.

R. idæus, var. *strigosus,* Miyabe, Fl. Kuril, 228; Matsum. Bot. Mag. Tokyo, XVI. p. 6.

Nom. Jap. *Oh-miyama-urajiroichigo.*

Hab. Sachalin, Yezo, Nippon boreali.

4) **Rubus asper,** Wall., Focke, Monogr. Rub. 157.

R. sorbifolius, Max. Mél. Biol. VIII. 390.

Nom. Jap. *Kojiki-ichigo.*

Hab. Nippon australi, Sikoku, Kiusiu.

5) **Rubus illecebrosus,** Focke, in Abh. Nat. Ver. Bremen, XVI. (1899) 278.

R. Commersoni, var. *simpliciflorus,* Mak. Bot. Mag. Tokyo XXIII. 150.

Nom. Jap. *Bara-ichigo.*

Hab. Nippon australi, Sikoku.

6) **Rubus nesiotes,** Focke, Bibl. Bot. 72. (1910) p. 43, p. 141.

R. abortivus, Ito, in Ito et Matsum. Tent. Fl. Lutch. I. 451. (non O. Ktze).

Nom. Jap. *Kuwanoha-ichigo.*

Hab. Insl. Okinawa.

7) **Prunus subhirtella,** (Miq).

P. subhirtella, Miq. Prol. Fl. Jap. 23 (excl. form.)

P. subhirtella, Koehne, Mitt. Deutsch-Dendr. Ges. (1909) p. 173. (non J. D. Hook.)

P. Miqueliana, Max, Mél. Biol. XI. 692.

Nom. Jap. *Ko-higanzakura.*

Hab. Nippon.

var. **glabra,** m.

P. subhirtella, J. D. Hook. Bot. Mag. t. 7508. (1896).

Nom. Jap. *Ko-higanzakura.*

Hab. Nippon.

8) **Prunus Ceraseidos,** (S et Z) Koidz. in Bot. Mag. Tokyo, XXV. p. 259. (non Max).

var. **kurilensis,** (Miyabe).

Prunus kurilensis, Miyabe, ; Takeda in Bot. Mag. Tokyo. XXIV. p. 11.

Nom. Jap. *Yetorofu-zakura,* (文久一年, 堀良山著櫻譜, 八巻二十八葉左圖 ; Y. Hori, A Monograph of *Sakura,* (1861) Vol. III, 18, verso).

Hab. Hokkaidō, Sachalin.

9) **Prunus sachalinensis,** (Schmidt)

P. pseudocerasus, var. *sachalinensis,* Fr. Schmdt. Reis. Sachal. (1868) p. 124

P. Sargentii, Rehder. Mitteil. Deutsch. Dendr. Ges. (1908), 159.

Nom. Jap. *Akebonozakura.*

Hab. Japonia boreali.

Fig. 1
×260

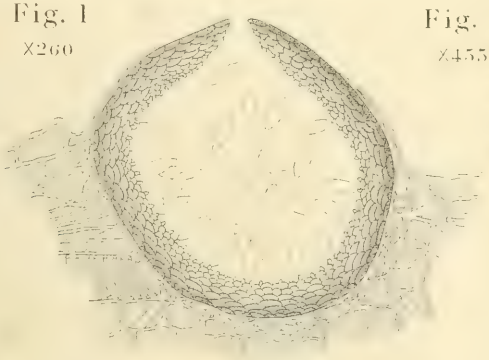

Fig. 2
×455

Fig. 3 ×260

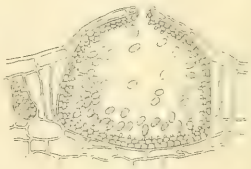

Fig. 4
×455

Fig. 6 ×455

Fig. 5 ×100

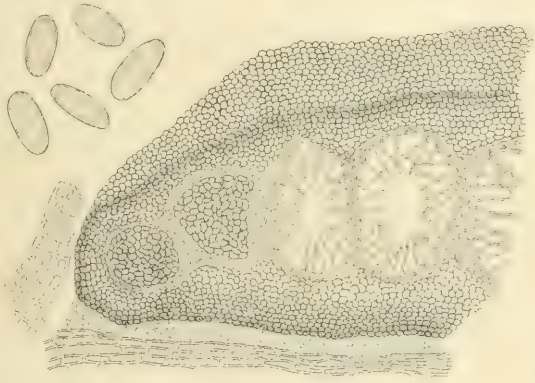

Fig. 7
×165

Fig. 8
×455

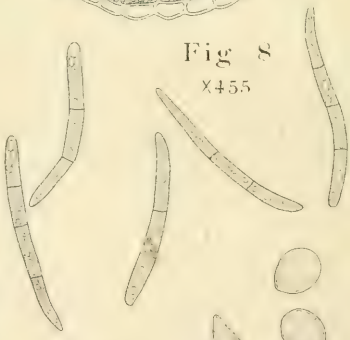

Fig. 9
×455

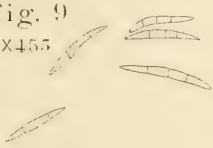

Fig. 10 ×455

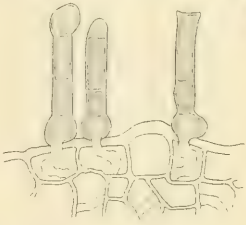

Fig. 11
×455

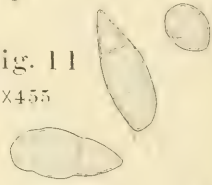

Fig. 12 ×260

Fig. 13
×455

Fig. 14 ×455

Fig. 15
×455

Fig. 16
×455

L. Miyake del.

Chinese Fungi.

Studies in Chinese Fungi.

(*With Plate I.*)

By

Ichiro Miyake, *Nōgakushi.*

The following descriptions are based on the materials collected by myself in South China in 1908, and in Peking and its vicinity in 1910 and 1911. Most of them are already known from other parts of the world, but some of them are new, as far as I can aware. Besides there are a few species which are unable to be exactly determined at present. As our knowledge of the fungal flora of China is very meagle, I intend to make further collections and continue the study.

Phycomycetes.

Cystopus candidus Lév., Sacc., Syll. VII. p. 334; Sorauer, Pflzkr. II, p. 130 Fig. 18; Prillieux, Malad. pl. agric., I, p. 62, fig. 28–30; Engler, Pflzfam. I. I., p. 46 fig. 31, p. 108 fig. 72 et p. 111 fig. 94–95.

On *Brassica campestris* L. (Peking; Oct. 1910).

This fungus is very common in vegetable gardens in Peking and its vicinity.

Cystopus Ipomeæ-panduratæ (Schw.) Stev. et Sw. Sacc., Syll., IX. p. 341; Engler, Pflzfam. I. I., p. 112.

On *Pharbitis hederacea* L. (Peking; Oct. 1910).

Cystopus Tragopogonis (Pers.) Schröt. Sacc., Syll. VII. p. 234; Prillieux, Malad. pl. agric. I. p. 69, fig. 31–32.

On *Saussurea* sp. (Peking; Sept. 1911).

Phytophthora infestans de Bary. Sacc., Syll. VII. p. 237;

Sorauer, Pflzkr. II. p. 132, fig 18; Prillieux, Malad. pl. agric. I. p. 78, fig. 38–40.

On *Lycopersicum esculentum* Mill. (Peking; Oct. 1910).

Peronospora effusa Rabh. Sacc., Syll. VII. p. 256; Sorauer, Pflzkr. II. p. 166; Prillieux, Malad. pl. agric. I. p. 142, fig. 53; Engler, Pflzfam. I. I. p. 118.

On *Chenopodium album* L. (Peking; Oct. 1910).

On *Spiracea oleracea* Moll. (Fengtai near Peking; Oct. 1910).

Very commonly one or two yellowish white spots of roundish or irregular forms, 5–10 m.m. in diameter, appear on each attacked leaf; very common in Peking.

Peronoplasmopara cubensis (B. et C.) Clint. Sacc., Syll. VII. p. 261; Sorauer, Pflzkr. II. p. 162; Miyabe et Takahashi, in Transact. Sappro Natural History Society, Vol. I. part II. p. 149.

On *Cucurbita* sp. (Prov. Chinshi, Hunan; Oct. 11, 1908).

On *Cucumis Melo* L. (Peking; Oct. 1910).

In Peking and its vicinity this fungus is not rare. It forms yellowish spots but a little smaller than in the case of *Peronospora effusa* Rabh., but I could not observe the black rotten leaves that are characteristic symptoms of mildew diseases; I think this is due to the dry season, as, on the contrary, in Hunan where the quantity of rainfall is much larger, I have seen many with these symptoms.

Sclerospora graminicola Schröt. Sacc., Syll. VII. p. 238; Sorauer, Pflzkr. II. p. 152; Engler, Pflzfam. I. I. p. 114 fig. 99.

On *Setaria italica* Kth. (Mountanous regions, northwest of Iichang, Hupei., Sept. 25, 1908).

On *Setaria glauca* Beauv. (Peking; Oct. 1910).

I saw very few plants infected by this fungus here, this was probably due to the lateness of the season. On the other hand, in the mountainous regions of Iichang, Hupei, I have observed very many attacked plants with special whisklike upper leaves or abnormal ears and this fungus causes great damage to the cultivators there, while in the lower plains of the Yangtz river I could not find any, though I searched for one very carefully.

Ascomycetes.

Penicillium glaucum LINK. SACC., Syll. IV. p. 78; BERLESE, Fungi moric., Fasc. VII. n. 6, Tab. 55 fig. 4–7; ENGLER, Pflzfam. I. I. p. 304, fig. 316.

On Fruit of *Pirus Malus* L. (Peking; Nov. 1910).

This fungus is very common in Peking and causes soft rot in apples.

Sphaerotheca Humuli BURR. var. **fuliginea** (SCHLECHT.) SALM. SALMON, Mongr. Erysiph., p. 49.

On *Bidens pilosa* L. (Peking; Oct. 1910).

On *Taraxacum officinale* WIGG. (Peking; Oct. 1910).

On *Impatiens Balsamina* L. (Peking; Oct. 1910).

This fungus is very common in Peking and its vicinity.

Erysiphe Cichoracearum DC. SALMON, Monogr. Erysiph., p. 127; SORAUER, Pflzkr. II, p. 199.

On *Plantago major* L. (Peking; Oct 1910).

On *Artemisia vulgaris* L. var. *indica* MAXIM. (Peking; Oct. 1910).

On *Cucurbita* sp. (Prov. Iichang, Hupei; Sept. 24. 1908).

Erysiphe Polygoni DC. SACC., Syll. I. p. 18; SALMON, Monogr. Erysiph. p. 174; PRILLIEUX, Malad. pl. agric. II. p. 14, fig. 196–199; ENGLER, Pflzfam. I. I. p. 331 fig. 229; SORAUER, Pflzkr. II. p. 199.

On *Fagopyrum esculentum* MOENCH. Peking; Oct, 1910).

On *Astragalus tenuis* TURCZ. (Peking; Oct. 1910).

This fungus is so widely diffused here that in every field of buckwheat its presence can easily be found by the white spots which it causes.

Uncinula Mori MIYAKE. MIYAKE, in Botan. Magaz. Tōkyō, 21 (1907) p. 5–6.

On *Morus alba* L. (Prov. Tauen-shen, Hunan; Oct. 1908).

After this fungus was discovered by me near Nikkō, Japan, Mr. K. HARA observed it in the province of Mino, and Mr. YOSHINAGA collected it in the province of Tosa, but its occurrence in Japan seems to me very rare. On the contrary, accord-

ing to my observation, it is the sole white rust on mulberry-trees in the province of Hunan, and the other fungus *Phyllactinia Corylea* Sacc. et Syd. is not found at all.

Phyllactinia Corylea Sacc. et Syd. Sacc., Syll. I. p. 5; Sorauer, Pflzkr. II. p. 199, fig. 28; Prillieux, Malad. pl. agric. II. p 29; Engler, Pflzfam. I. I. p. 332, fig. 230.

On *Morus alba* L. (Soochou, Kiangsoo; Nov. 1908; and Peking; Oct. 1910).

On *Ailanthus glandulosa* Desf. (Peking; Oct. 1910).

Aciculosporium Take Miyake. Miyake, in Botan. Magaz, Tōkyō n. 259 (1908) p. 305.

On *Phyllostachys* sp. (Sangteh, Hunan; Oct. 1908 and Soochou, Kiangsoo; Nov. 1908).

Gibberella moricola (Ces. et De Not.) Sacc. Sacc, Syll. II. p. 553; Berlese, Fungi. moric., fasc. VII, n. 26, tab. 40 fig. 6–11; Briosi et Farneti, in Atti Istit. Botan. Pavia, 2, ser. X. s. 1; Sorauer, Pflzkr. II. p. 464.

On *Morus alba* L. (Tōshan, Sangteh, Hunan; Oct. 1808).

It is well known that the condiaform of *Gibberella baccata* (Wallr.) Sacc. is *Fusarium latesitium* Nees. according to Saccardo's Sylloge Fungorum, and that that of the present species is a certain *Fusarium* according to Briosi and Fametis study. The difference between *G. baccata* and *G. moricola* is only in the size of ascospores, and I have some reasons for believing this difference arises probably from the result of erroneous measurement, so we may consider the two species as identical, the former being but another name for the latter. *Fusarium Urticearum* (Corda.) Sacc., a parasite on the branches of the mulberry-tree, which differs from *F. latesitium* only in the size of spores and color of stroma according to Berlese, belongs to this species, for the young state of the latter exactly coincides with the description of the former; from above points of view, I am led to believe that these three species are in reality the *G. moricola*. As I am now studying the fungi of mulberry-trees, I will hereafter publish the details of this investigation.

Ustilaginoidea Penniseti sp. nov.

Attacked glumes become swelled, several times larger than common one, black; sclerotium spherical, dark—black, densely verrucose, 22–28 in diameter.

On *Pennisetum compressum* R. Br. (Shinchou, Hunan; Oct. 14, 1908).

According to Saccardo's Sylloge Fungorum, we have five species *Ustilaginoidea*, that is *U. vierens* Tak., *U. Setariæ* Bref., *U. mossambicensis* P. Henn., *U. ochracea* P. Henn. and *U. usambariensis* P. Henn., but my species is quite different in its colour from the former two and in its size of sclerotium, from the others.

Phyllachora graminis Fckl. Sacc., Syll. II. p. 602 et IX. p. 1026; Sorauer, Pflzkr. II. p. 222; Engler, Pflzfam. I. I. p. 381 fig. 251.

On *Miscanthes sinensis* Aud. (prov. Iichang, Hupei; Sept. 25. 1908).

Melanomma glumarum Miyake. Miyake, in Journal College Agric. Tōkyō, 2 (1910) Tafel 13 fig. 1–3.

On *Oryza sativa* L. (Soochou, Kiangsoo; Nov. 1908).

According to Mr. K. Hara, this fungus was very common in the vicinity of Tōkyō and paraphyses which in my description are not mentioned, exist also. When I got it for the first time in Soochou it was nearly the end of the harvest season, therefore my materials were scarcely enough to determine its characteristics and for this reason my observations are imperfect. I am grateful to Mr. K. Hara for supplying to me these details which I was unable to get from personal observation.

Mycosphaerella Pomacearum Sacc. Sacc., Syll. I. p. 482.

On *Pirus Malus* L. (Peking; Oct. 1910).

This fungus appears together with certain conidiaform, *Phyllosticta*, *Coniothyrium* and *Hendersonia* in one spot, but not with *Septoria*, *Diplodia*, etc. as in Saccardo's Sylloge Fungorum. In spite of the differences of conidiaform I put the present species under this name because the ascoform is the same in both and those conidiaforms naturally are very closely related.

Mycosphaerella Schoenoprasi Auersw. Sacc., Syll. I. p. 522.

On *Allium fistulosum* L. (Peking; Dec. 1910).

On onion in Markets of Peking in wintertime it can be found commonly.

Mycosphaerella morifolia Pass. Sacc., Syll. IX. p. 647; Prillieux, Malad. pl. agric. II. p. 280, fig. 360; Berlese, Fungi moric. fasc. VII. n. 4, tab. 24 fig. 9–12.

On *Morus abla* L. (Shashi, Hupei; Oct. 8, 1908).

Phaeosphaeria Oryzæ Miyake Miyake, in Journal College Agric. Tokyo, 2 (1910) Tafel 13 fig. 15–17.

On *Oryza sativa* L. (near Ryangshan, Sangteh, Hunan; Oct. 1908. Peking; Oct. 1910).

In the vicinity of Peking I have observed that this fungus is commonly accompanied by its conidiaform, *Phyllosticta Orzae* Hori.

Ustilagineæ.

Ustilago esculenta P. Henn. Sacc., Syll. IX. p. 232; Hori: on *U. esculenta* in Annal. Mycol., (1907) pl. 6–7.

On *Zizania aquatica* L. (very common in Hunan. Peking; Nov. 1910).

Dr. S. Hori has described the details of this interesting economic fungus and adds that he has observed the presence of fine echinulation on the surface of a fresh spore, but my observation made on fresh spores here failed to find it exactly coinciding with P. Henning's and Prof. Dr. K. Miyabe's descriptions.

Ustilago Rabenhorstiana Kuhn. Sacc., Syll. VII. p. 471; Sorauer, Pflzkrankh. II. p. 325.

On *Panicum sanguinale* L. var. *ciliare* Gren. et Godr. (Mentoukou, near Peking; Oct. 1910).

Ustilago Reiliana Kuhn. Sacc., Syll. VII. p. 471; Sorauer, Pflzkr. II. p. 322.

On *Andropogon Sorghum* Brot. var. *vulgaris* Hack. (Shashi, Hupei; Oct. 4, 1908).

Ustilago Sorghi (LINK.) PASS. SACC., Syll. VII. p. 456; SORAUER, Pflzkrankh. II. p. 321; PRILLEUX, Malad. pl. agric. I. p. 175 fig. 68; ENGLER, Pflzfam. I. 1** p. 8 fig. 5.

On *Andropogon Sorghum* BROT. var. *vulgaris* HACK. (Mentoukou, near Peking; Oct. 1910).

Ustilago Crameri KÖRN. SACC., Syll. p. 455; SORAUER, Pflzkrankh. II. p. 324.

On *Setaria viridis* BEAUV. (Tōshan, Sangteh, Hunan; Oct. 5, 1908).

On *Setaria italica* KTH. (Peking; Sept. 1911).

Ustilago Setariæ RABH. SACC., Syll. VII. p. 471.

On *Setaria viridis* BEAUV. (Peking; Oct. 1910).

Ustilago Maydis (DC.) CORDA. SACC., Syll. VII. p. 472; ENGLER; Pflzfam. I. 1** p. 8 fig. 5; SORAUER, Pflzkrankh. II. p. 318 fig. 45; PRILLIEUX, Malad. pl. agric. I. p. 170 fig. 67.

On *Zea majus* L. (Prov. Iichang, Hupei; Sept. 25, 1908. Peking; Oct. 1910).

It seems to me that this fungus is very common in China.

Ustilago Tritici JENS. SACC., Syll. IX. p. 283; SORAUER, Pflzkrankh. II. p. 317; ENGLER, Pflzfam. I. 1** p. 8 fig. 5.

On *Triticum sativum* LAM. var. *vulgare* (VILL.) HACK. (Fengtai near Peking; May 24, 1911).

Ustilago utriculosa (NEES.) TUL. SACC., Syll. VII. p. 476; SYDOW et BUTLER: Fungi Ind. orient. in Annal. Mycol. (1907) n. 6, p. 485 fig. 1.

On *Polygonum* sp. (Peking; Sept. 1911).

Urocystis occulta RABH. SACC., Syll. VII. p. 515; ENGLER, Pflzfam. I. 1** p. 19; PRILLIEUX, Malad. pl. agric. I. p. 187 fig. 71.

On *Triticum sativum* LAM. var. *vulgare* (VILL.) HACK. (very common in Peking and its vicinity; May 1911);

Uredineæ.

Uromyces appendiculatus LINK. SACC., Syll. VII. p. 535; ENGLER, Pflzfam. I. 1** p. 56 fig. 37; PRILLIEUX, Malad. pl. agric. I. p. 247 fig. 93.

On *Phaseolus vulgaris* L. (Mentoukou near Peking; Oct. 1910).

Uromyces Astragali (Opiz.) Sacc. Sacc., Syll. VII. p. 550.

On *Astragalus scaberrimus* Bge. (Peking; Oct. 1910).

Uromyces Junci (Desm.) Tul. Sacc., Syll. VII. p. 541.

On *Scirpus triqueter* L. (Iichang, Hupei; Sept. 24. 1908).

There are no telentospores on my material, but the form of uredospores coincides exactly with the description of this fungi.

Uromyces Lospedezæ (Schwein.) Peck. Sacc., Syll. VII. p. 549.

On *Lespedeza floribunda* Bge. (Mentonkou near Peking; Oct. 1910).

Uromyces Setariæ-italicæ (Diet.) Yoshino. Yoshino, in Botan. Magaz. Tōkyō, 20 (1906) p. 247; S. Itō, in Journal College Agricult. Sapporo, Vol. 3 (1909) n. 2 p. 185 pl. 10 fig. 4.

On *Setaria italica* Kth. (Iichang, Hupei; Sept. 25, 1908).

On *Setaria viridis* Beauv. (Peking; Oct. 1910).

Puccinia Phragmitis (Schum.) Körn. Sacc., Syll. VII. p. 630; Sorauer, Pflzkrankh. II. p. 367.

On *Phragmitis communis* L. (Peking; Oct. 1910).

Puccinia Iridis (DC.) Wallr. Sacc., Syll. VII. p. 657; Sorauer, Pflzkrankh. II. p. 368.

On *Iris setosa* Pall. (Peking; Oct. 1910).

Puccinia Convolvuli (Pers.) Cast. Sacc., Syll. VII. p. 610; Sorauer, Pflzkrankh. II. p. 368.

On *Calystegia sepium* R. Br. (Peking; Oct. 1910).

Puccinia Helianthi Schw. Sacc., Syll. VII. p. 603; Sorauer, Pflzkrankh. II. p. 368; Engler, Pflzfam. I. 1** p. 64 fig. 41.

On *Helianthus annuus* L. (Chefoo, Shantung; Sept. 1910 and Peking; Oct. 1910).

Fungi imperfecti.

Phyllosticta Phaseolina Sacc. Sacc., Syll. III. p. 41.

On *Phaseolus radiatus* Linn. (Iichang, Hupei; Sept. 25, 1908).

Phyllosticta hortorum SPEG. SACC., Syll. III. p. 49.

On *Solanum Melongena* L. (Iichang, Hupei; Sept. 25, 1908. Tauen-shen, Hupei; Oct. 11, 1908).

Phyllosticta populea SACC. SACC., Syll. III. p. 33.

On *Populus* sp. (Peking; Oct. 1910).

Macrophoma Sophoræ sp. nov.

Spots, on leaves, yellowish brown with narrow black peripheries and concentric rings becoming at centre a little bleached and having on the latter small black points, roundish, 4–6 mm. in diameter, after confluent forming large irregular specks; pycnidia, amphigenous, scattered, half immersed into the tissue, comparatively thick pseudoparenchymatic, black, spherical, ca. 150 μ in diameter (Fig. 1); conidia, hyaline, fusiform, 16–20 μ long, 4 μ broad; basidia small (Fig. 2.)

On *Sophora japonica* L. (Peking; Oct. 1911).

There is no species of *Macrophoma* on *Sophora* so far as I know, therefore I have considered the present species as a new one and have given the name, *M. Sophorae.*

Cicinnobolus Kusanoi P. HENN. SACC., Syll. XVIII. p. 284.

On *Oidium* on *Cucurbita* sp. (Peking; Oct. 1910).

Vermicularia graminicola WESTD. SACC. Syll. III. p. 235.

On *Andropogon Sorghum* BROT. var. *vulgaris* HACK. (Shashi, Hupei; Oct. 3. 1908. Peking; Oct. 1910).

This fungus is very common in the fields.

Conisthyrium Kraunhiæ sp. nov.

Spots, on leaves, large, roundish of various size, light yellowish brown with dark brown peripheries; pycnidia, amphigenous, immersed into the tissue and having openings for their mouths, spherifal, or ellipsoidal, 80–100 μ high, 60–80 μ broad, light brown (Fig. 3); conidia ellipsoidal, dark, 5–8 μ long, 3–4 μ broad; basidia small (Fig. 4).

On *Kraunhia floribunda* TAUB. (Peking; Oct. 1910).

As I was not able to find any species of *Conisthysium* which is parasitic on *Kraunhia* I have considered the present species to be new and named it *C. Kraunhiæ.*

Nothopatella chinensis sp. nov.

Stroma, on branches, at first covered by the epidermis, then

appearing as warty black shots with ruptured remains, discal, usually densely aggregate, becoming on the upper surface somewhat greyish, ½—1.5 mm. in diameter, 0.35—0.40 mm. thick, frequently two or even more of them confluent forming a large one, pseudoparenchymatic; pycnidia, immersed into stroma in one row, commonly ellipsoidal, but globose near the margin, without mouth, 160–200 μ long, 80–120 μ broad, colour lighter than stroma, with thread-like hyaline paraphyses (Fig. 5); spores, cylindrical with round ends or ellipsoidal, dark brown, 16–20 μ long, 6–8 μ broad; basidia, small (Fig. 6).

On *Broussonetia papyrifera* VENT. (Peking; Oct. 1910).

On *Prunus persica* S. et Z. (Peking; Oct. 1910).

On *Morus alba* L. (Peking; May 1911).

The present species differs from *N. Lecanidium* (SPEG.) SACC., the only hitherto known species in this genus, in the size and from of its spores, the length of its basidia and presence of paraphyses.

Actinonema Rosæ (LIB.) FR. SACC., Syll. III. p. 408; SORAUER, Pflzkrankh. II. p. 406; ENGLER, Pflzfam. I. 1** p. 370 fig. 194.

On *Rosa laevigata* MICH. (Fengtai near Peking; Oct 1910).

Diplodia maura C. et ELL. SACC., Syll. III. p. 341.

On *Pirus Malus* L. (Peking; Jan. 1911).

Diplodia Mori WESTD. SACC., Syll. III. p. 351; SORAUER, Pflzkrankh. II. p. 406; BERLESE, Fungi moric. fasc. VI, n. 22 tab. 52 fig. 10–13.

On *Morus alba* L. (Shashi, Hupei; Oct. 3, 1908).

Stagonospora prominula (B. et C.) SACC. SACC., Syll. III. p. 446.

On *Pirus Malus* L. (Peking; Oct. 1910).

Here this fungus appears commonly on the same leaves as *Mycosphaerella Pomacearum* SACC., but the present species can be easily distinguished from the other with the naked eye by its having spots of a deeper colour and with dark brown periphery.

Septoria convolvulina SPEG. SACC., Syll. XVI. p. 966.

On *Calystegia sepium* R. BR. (Peking; Oct. 1910).

Septoria Chrysanthemi ALLESCH. SACC., Syll. IX. p. 542.
On *Chrysanthemum indicum* L. (Peking ; Oct. 1910).
Septoria Violæ WESTD. SACC., Syll. III. p. 518.
On *Viola Patrinii* DC. (Mentoukou, near Peking; Oct. 1910).
On *Viola* sp. (Peking ; Oct. 1910).
Septoria Polygonina THUEM. SACC., Syll. III. p. 554.
On *Polygonum orientale* L. var. *pilosum* MEISN. Peking ; Oct. 1910).

According to my observation, this fungus is accompanied by a certain *Phyllosticta*-form that is very similar to *P. polygonorum* SACC. Since the fact, that the spores of two kinds like *Septoria* and *Phyllosticta* are formed sometimes in one and the same species was proved by the infection experiments of Dr. KLEBAHN, Dr. VOGLINO has also verified that *Phyllosticta* and *Rhabdospora* on eggplants belong to the same species. In my former examination, I have found that the spores of *Phoma niphonia* NOMURA (more correctly *Diaporthe* or *Phomopsis orientalis* SACC. et SPEG.) and *Rhabdospora curvula* BERL. on *Morus alba* L. appear in one pycnidium. Therefore it may be concluded that these two species considered as different ones hitherto, must be regarted as one. The causes of abnormal sporeformation are, however, not yet known. From the above instances one can easily conclude that there are close relations among some (though not all) species of *Septoria* and *Phyllosticta*.

Septoria Cirsii NIESSL. SACC., Syll. III. p. 550.
On *Saussurea* sp. (Peking ; Oct. 1910).

This is another instance of the abnormal sporeformation which I have mentioned above. In this species the other sporeform is very similar to *Phyllosticta profusa* SACC.

Septoria Piri sp. nov.

Spots, on leaves, roundish or elliptical, 2–5 mm. in diamater, often confluent forming large irregular specks, darkbrown, forming one or two small roundish grey centres, with black points, the size of which is about one half or one sixth the spot in diameter; pycnidia, amphigenous, densely gregarious, ovoidal, immersed into the tissue with large round mouth, pseudoparenchymatic, darkbrown, 150–200 μ in diameter (Fig. 7) ;

spores, hyaline, 2–3 septate, thicker, at one end, guttulate, curved, 40–70 μ long, 4–5 μ broad (Fig. 8).

On *Pirus sinensis* LINDL. (Iichang, Hupei; Sept. 25, 1908).

The known fungi of the genus *Septoria* which are parasitic on *Pirus*, are comparatively many according to SACCARDO's Sylloge Fungorum, but they are quite different from the present species in many points, especially in the following important points:—

S. Ralfsii B. et Br., with straight spores, the length of which is only a half that of my species, a parasite on fruits (*Rhabdospora* ?).

S. nigerrima FUCK., with long black hair rings on pycnidia.

S. piricola DESM., epiphyllous, greyish white spots with narrow brown margin, and its pycnidia with white—olive-coloured hairings.

S. perularum (THÜM.) SACC., spores, pointed at both ends, and size of spores is one fourth of my species, a parasite on branches (*Rhabdospora* ?).

Septoria amphigena sp. nov.

Spots, on leaves, roundish, darkbrown, having greyish centre, 3–5 mm. in diameter; pycnidia, amphigenous, densely gregarious, at first covered by the epidermis, then ruptured, black deeper colour at the mouth part, spherical or ellipsoidal, 120–150 μ in diameter; conidia, greenish, long fusiform, 3-septate, 18–22 μ long, 1.5–2.0 μ broad, straight or slightly curved (Fig. 9).

On *Bupleurum falcatum* LINN. (Mentoukou near Peking; Oct. 1910).

Concerning the other species of *Septoria* which are parasitic on leaves of *Bupleurum*, according to SACCARDO's Sylloge Fungorum, I have found four that are different from the present species in the following points.

S. Bupleuricola SACC., pycindia, epiphyllous and spores, without septum.

S. Bupleuri DESM., pycindia, hypophyllous, and the length of spores is twice that of my fungus.

S. diffusa F. TASSI., pycnidia epiphyllous and conidia are one-celled.

S. Bupleuri-falcati DIEDICKE, pycnidia, epiphyllous and conidia are very large.

From the chief points of difference above mentioned, I could not identify my species with the known ones and have considered it to be a new species and that it may be named *S. amphigena* according to the distinct character of the fungus.

Brachysporium Phragmitis sp. nov.

Spots, along the nervures of leaves, linear black on upper-surface but yellowish on underside; mycelium, in the tissue, hyaline; conidiophores, epiphyllous, very numerous, solitary from the epidermils, with swelled base, usually one-septate, dark, 30–40 μ long, 6–7 μ broad, erect, simple (Fig. 10); conidia, ovoidal, hyaline in young stage but light brown in ripeness, 2–septate, not or somewhat constricted at the septa, 30–36 μ long, 10–16 μ broad (Fig. 11).

On *Phragmitis communis* L. (Peking; Oct. 1910).

Compared with the known species of this genus on *Gramineæ*, this fungus differs from them in many respects, especially in the following distinct points.

B. flexuosum (CORDA.) SACC., *B. gracile* (WALLR.) SACC. and *B. graminis* BOY. et JACZ. have conidiophores pushed out in bundleform, and the size of spores does not coincide with that of the present species. *B. garcile* (WALLR.) SACC. var. *gramineum* RABH. has a spore which is different from that of the present species in its number of septa and in its form.

Clasterosporium Mori SYD. SACC., Syll. XVI. p. 1060.

On *Morus alba* L. (Peking; Oct. 1910).

Very common in Peking and its vicinity.

Clasterosporium Ancygdalearum (PASS.) SACC. SACC. Syll. IV. p. 391; SORAUER, Pflzkrankh. II. p. 447 fig. 59; PRILLIEUX, II. p. 337 fig. 395–396.

On *Prunus Persica* S. et Z. var. *vulgaris* MAXIM. (Peking; Oct. 1910).

On *Prunus Armeniaca* LINN. (Mentoukou near Peking; Oct. 1910).

Helminthosporium turcicum PASS. SACC., Syll. IV. p. 420; SORAUER, Pflzkrankh. II. p. 450.

On *Andropogon Sorghum* Brot. var. *vulgaris* Hack. (Jichang, Hupei; Sept. 24, 1908 and Peking; Oct. 1910).

Helminthosporium Ravenelü Berk. et Curt. Sacc, Syll. IV. p. 412.

On the inflorescence of *Sporobolus indicus* R. Br. (Shashi, Hupei; Oct. 7, 1908 and Sangteh, Hunan; Oct. 1908).

Helminthosporium Sapii sp. nov.

Spots, on leaves, small, darkbrown, on underside deeper colour than the other, scattered, irregular, often confluent forming large irregular specks; conidiophores, amphigenous but mostly on underside, erect, simple, bundleform, 1–2 septate, dark, 26–28 μ long, 5 μ broad (Fig. 12); conidia, clubshaped, curved, 5–9–septate, dark, 34–56 μ long, 7–9 μ broad (Fig. 15).

On *Sapium sebiferum* Roxb. (Tauen-shen, Hunan; Oct. 1908).

When this fungus attacks a leafstalk and forms a black spot on it, the leaf becomes yellowish and finally falls to the ground; I have seen a tree that has lost a larger part of the leaves because of the fungus. It seems to me that the very useful host plant that is commonly cultivated in South China, has been greatly damaged by the fungus. This is no known fungus of *Dematiaceæ* on the host plant, according to my researches, therefore I have considered this to be a new species.

Helminthosporium Sesami sp. nov.

Spots, on leaves, small, roundish, greyish having a dark brown margin, conidiophores, amphigenous, simple, solitary, swelled at the base, septate, 150–250 μ long, 6–8 μ broad, dark; conidia, long obclavate, roundish at the both ends, commonly curved, 5–9 septate, brown, 46–68 μ long, 8–11 μ broad, sametimes constricted at the septum of the first cell (Fig. 14).

On *Sesamum indicum* L. (Shashi, Hupei; Oct. 6, 1908).

As the only fungus of *Dematiaceæ* which is parasitic on the host plant we have one *Cercospora* and no *Helminthosporium*, therefore, I have considered the present species to be new and that it may be named *C. Sesami* according to the name of the genus of the host.

Alternaria Brassicæ (Berk.) Sacc. Sacc., Syll. IV. p.

546 ; SORAUER, Pflzkrankh. II. p. 456 ; PRILLIEUX, Malad. pl. agric. II. p. 240 fig. 338.

On *Brassica campestris* L. (Peking ; Oct. 1910).

Alternaria tenuis NEES. SACC., Syll. IV. p. 545; ENGLER, I. 1** p. 485 fig. 252; BERLESE, Fungi moric. fasc. VII. n. 2 tab. 63 fig. 4–6; PRILLIEUX, Malad. pl. agric. II. p. 233 fig. 336.

On *Fagopyrum esculentum* MOENCH. (Peking ; Oct. 1910).

Cercospora ricinella SACC. et BERL. SACC., Syll. IV. p. 456.

On *Ricinus communis* L. (Peking ; Oct. 1910).

Cercospora viticola (CES.) SACC. SACC., Syll. IV. p. 458 ; SORAUER, Pflzkrankh. II. p. 452.

On *Vitis vinifera* L. (Qui-chou, Hupei ; Sept. 29, 1908). Mentoukou near Peking ; Oct. 8910 and Peking ; Oct. 1910).

This is the only disease on leaves of vines in China which I have seen; the spots being smaller in size than those in Japan but appear in larger numbers and the damage caused by it must be very great. The spots with concentric rings which one may observe in this species in Japan can not be found on it here, nevertheless the forms of both the natives are exactly the same.

Cercospora Nicotianæ ELL. et EV. SACC. Syll. XI. p. 621.

On *Nicotiana tabacum* L. (Shashi, Hupei ; Oct. 4, 1908).

Cercospora tosensis P. HENN. SACC., Syll. XVIII. p. 604.

On *Solanum nigrum* L. (Peking ; Oct. 1910).

Cercospora personata (B. et C.) ELL. SACC., Syll. IV. p. 439.

On *Arachis hypogaea* L. (Jichang, Hupei ; Sept. 25, 1908. Tauen-shen, Hunan ; Oct. 1908. Peking ; Oct. 1910).

Cercospora polymorpha BUBAK. SACC., Syll. XVIII. p. 597.

On *Malva sylvestris* L. (Peking ; Oct. 1910),

Cercospora gossypnia COOK. SACC., Syll. IV. p. 441.

On *Gossypium herbaceum* L. (Iichang, Hupei ; Sept. 24, 1908. Shashi, Hupei ; Oct. 1908. Peking ; Oct. 1910).

In the cotton fields of South China as well as in the fields of the North this fungus is very common and presume the damage caused by it would be very great.

Cercospora Sesami ZIMM. SACC., Syll. XVIII. p. 595.

On *Sesamum indicum* L. (Iichang, Hupei ; Sept. 24, 1908).

Cercospora Ipomeæ WINT. SACC., Syll. X. p. 663.

On *Pharbitis hederacea* L. (Mentoukou near Peking; Oct. 1910).

Cercospora canescens ELL. et MART. SACC., Syll. IV. p. 435.

On *Phaseolus Mungo* L. var. *radiatus* BAK. (Iichang, Hupei; Sept. 24, 1908).

Cercospora Aleuritidis sp. nov.

Spots, on leaves, black on upper surface, darkbrown with yellowish brown central part on underside, roundish, 6–10 mm. in diameter, conidiophores, amphigenous, pushing out from a stomata 4–5 in bundleform, 2–3 septate, dark, but lighter towards the tips, 20–40 μ long, 4 μ broad (Fig. 15); conidia, cylindrical with roundish both ends, frequently obclavate, straight or curved, 4–8 septate, hyaline, guttulate, 40–90 μ long, 4–5 μ broad (Fig. 16).

On *Aleurites cordata* ARG. (Prov. Sangteh, Hunan; Oct. 12, 1908).

Because I do not know a fungus of this genus to be parasitic on leaves of *Aleurites cordata*, which is one of the most useful of the cultivated trees in South China, I have considered this fungus to be a new species.

EXPLANATION OF PLATE I.

Fig. 1 and 2. *Macrophoma Sohporæ* sp. nov.
Fig. 3 and 4. *Coniothyrium Kraunhiæ* sp. nov.
Fig. 5 and 6. *Nathopathella sinensis* sp. nov.
Fig. 7 and 8. *Septoria Peri* sp. nov.
Fig. 9. *Septoria amphigena* sp. nov.
Fig. 10 and 11. *Brachysporium Phragmitis* sp. nov.
Fig. 12 and 13. *Helminthosporium Sapii* sp. nov.
Fig. 14. *Helminthosporium Sesami* sp. nov.
Fig. 15 and 16. *Cercospora Aleuritidis* sp. nov.

Variation in the seeds and pulp-vesicles of *Citrus aurantium* L. subsp. *nobilis* Mak. var. *Tachibana* Mak.

By

H. Nakano.

Now-a-days many kinds of mandarins are cultivated in Japan, the phylogeny of which we are now quite ignorant. History tells us that some species of mandarins were introduced from China,[1] and hence some scholars imagine that the present mandarin is indigenous to China, but the wild growing parent mandarin called *Tachibana*, which now is considered the most primitive mandarin, has been observed in Southern Japan by Mr. T. Makino.[2] The native land of the present mandarin cannot then necessarily be China, because many varieties of the present day would have been derived from such an inland stock-plant as *Tachibana*.

We commonly see four kinds of mandarins in Tokyo and its vicinity. The principal character of their fruits may be described as follows :

Fukuremikan, a race of *Tachibana* is almost allied to *Tachibana*. The fruits are 3–5 cm in diameter. The rind is smooth and yellow; its thickness is about 1.5–2 mm. The pulp is yellow and has an acid taste. In the ripe fruit the rind and pulp-vesicles are easily separable.

Kojimikan, a race of *Tachibana* is somewhat allied to the above race. The fruits are as large as that of the above, being about 3–5 cm in diameter. The rind is pale yellow and very thin, about 1–2 mm. The pulp is also pale yellow and has a slightly bitter taste.

1) K. Shirai. A chronological table of natural history in Japan. 1909. p. 4 & 40.
2) T. Makino. Bot. Mag. Tokyo. 1901 Vol. 15 No. 178 p. 168.

Kishumikan, a race of *Tachibana*. The fruits are equally as large as those of the above two, about 4–5 cm in diameter. The rind and pulp are together of a reddish yellow. The rind is smooth and thicker than those of the above two, about 2–3 mm. The pulp has a slightly acid taste. It has been cultivated in the province of "kishu" for the past 300 years, hence the origin of its name.

Unshumikan, a race of *Tachibana*. It is said that the native land of this race is Wen-chow, Che-kiang in China, from which the name originated, while some imagine that it is a selected form of *Kishumikan*. The fruits are the largest and sweetest among the four kinds of mandarins and are much esteemed by the Japanese.

The diameter of the fruit measures 5–8 cm, and the thickness of its rind is about 3–10 mm. The rind sometimes produces many clumps on its surface. The pulp-vesicles, in most cases, do not contain seeds, on account of degeneration in their pollen grain,[1] but they become prolific, when crossed with seeded mandarins.[2]

Truly mandarins are fond of a mild climate, and therefore flourish well in Southern Japan. They are scarcely cultivated in the North beyond the Ibaraki prefecture.

Kishumikan and *Unshumikan* are mostly cultivated in the provinces of "Kishu," "Suruga" and "Higo." They are cultivated also in Tokyo and its vicinity, but they do not produce good fruit. On the contrary, we find in these districts *Fukuremikan* and *Kojimikan* flourishing, and here they are more esteemed on account of their earlier ripening than the two varieties above.

In my present paper I intend to compare the variations of the seeds and pulp-vesicles in the above four kinds of mandarins, and also to investigate the local and annual influences upon the variation of vesicles; shortly to show the difference

1) I. Osawa: Studies on the parthenocarpy of *citrus* fruit. Jour. of the scient. agric. society. 1911. No. 104.

2) T. Ikeda: On the parthenocarpy of *citrus* fruit. ditto. No. 60 & 63. 1904 Second report: 1906. No. 70.

of the four mandarins in the number of their seeds and vesicles. Besides these I shall give my attention to the correlation between the number and weight of the fruit, and between the number of seeds and vesicles.

The collection of the fruit took place only in the neighbourhood of Tokyo, because my present profession prevented me from extending my observations to the various provinces.

A. habitat is situated on a loamy hill in the northern part of the province Simosa, 30 miles east from Tokyo.

B. habitat is also situated on a loamy hill in northern Simosa, about 7.5 miles east from A.

C. habitat is situated on the alluvial land near the western end of the swamp "Kasumigaura," in the province of "Hidachi" about 15 miles north from A.

All the trees examined were not pruned, being in almost all cases in their natural condition.

The counting of vesicles was carefully carried out by separating them one by one. Two united vesicles were counted as one.[1)]

The variation of vesicles.

On 3rd Nov. 1909 I collected the fruits from a *Fukuremikan* tree of about 4.8 m high in A. habitat. The fruits were divided into two groups, one from the branches, higher than 2.4 m, the other from those lower than 2.4 m. The collecting was made without selection and it took place from the same side of the upper and lower branches. The following data were obtained :

From the lower part.

V.	7	8	9	10	11	12	13	*n.*	*m.v.*	*m.w.*	M.
f.	14	87	149	169	66	22	2	509	9.511	22.2 *g*	10

1) As to the phenomena of the dédoublement, we may consider the separation or the fusion of two elements. (Comp. GÖBEL: Organographie 1898 p. 710). Which case is correct has not yet been ascertained in our vesicles.

From the upper part.

V.	7	8	9	10	11	12	13	*n.*	*m.v.*	*m.w.*[1]	M.
f.	20	163	380	351	139	26	8	1087	9.493	25.4 *g*	9

Combining the above two results.[2]

V.	7	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	34	250	529	520	205	48	10	1596	9,499	9,10

From these results we see a clear difference between the mean weights of the upper and lower parts, while we cannot find any difference between the numbers of their vesicles. It may be here remarked that the difference of weight came from the fact that most of the fruit of the upper branches was situated on main branches, while those of lower branches were on the small lateral branches, and hence the former received a richer flow of nourishment than the latter.

On 15th Nov. 1909 I obtained the following data from another, but somewhat smaller tree in the same place as A.

V.	7	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	5	24	72	51	18	8	1	179	9.453	9

This result shows us that the age of a tree has not any influence upon the variation of its vesicles.

On 12th 1910 the following data were obtained from the large tree of 1909.

1) The mean was obtained from the weighing of 947 fruits.

2) V.....number of vesicles.
f.....frequency of vesicles.
n.....total number of variates.
m.v.....mean number of vesicles.
m.w.....mean weight of a fruit.
M.....mode.

From the lower part.

V.	7	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	1	16	39	83	54	12	1	206	10.034	10

From the upper part.

V.	7	8	9	10	11	12	13	14	*n.*	*m.v.*	M.
f.	2	19	45	71	52	27	3	1	220	10.136	10

Combined.

V.	7	8	9	10	11	12	13	14	*n.*	*m.v.*	M.
f.	3	35	84	154	106	39	4	1	426	10.087	10

In 1910 I could not estimate the exact weight of the fruits, because they were much damaged in conveyance. Of the results of the number of vesicles, it is noteworthy that the number of vesicles in the upper part was greater than that in the lower ones, although in a slight degree.

On 5th Nov. 1911, 674 fruits were collected at random from the same tree as above, the following data being obtained:

From the lower part.

V.	6	7	8	9	10	11	12	13	*n.*	*m.v.*	*m.w.*	M.
f.	1	11	73	112	107	35	12	1	352	9.679	23.94 *g*	9

From the upper part.

V.	6	7	8	9	10	11	12	13	*n.*	*m.v.*	*m.w.*	M.
f.	1	15	84	108	85	23	5	1	322	9.102	25.06 *g*	9

Combined.

V.	6	7	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	2	26	157	220	192	58	17	2	674	9.226	9

Here we see that the fruit of the upper part is greater in weight than that of the lower one, as in 1909. On the contrary the number of the vesicles in the former is clearly smaller than that in the latter.

From these results it seems probable, that the weight of the fruit varies strongly with its position on the branches, while the difference of the vesicles between the upper and the lower branches is not quite clear. We see, then that the number of vesicles is a more fixed characteristic than the weight of the fruit.

Comparing the results of three years (1909–'11) in A. habitat, the annual changes may be summarised as follows:

year	M.	*m.v.*	difference	*m.v.* in the lower & upper	difference
1909	9	9.499		9.511 9.493	−0.018
			+0.588		
1910	10	10.087		10.034 10.136	+0.102
			−0.861		
1911	9	9.226		9.679 9.102	−0.577

It is to be noticed that the fruiting percentage of the above tree was very good in 1909; poor in 1910, but in 1911 it was pretty good. We see, therefore, that the number of vesicles fluctuates correlatively with the fruiting percentage, and that it is large in a certain year, then less in the following. If we compare the difference of the annual variations with that of the lower and the upper parts in the same year, we know that the former exceeds the latter, because the greatest difference shown by the former is 0.861, while that of the latter is 0.577.

I shall now give the results in C. habitat.

On 25th Oct. 1910, 489 fruits were collected from a *Fukuremikan* tree about 3.3 m high. The data obtained are:

From the lower half.

V.	9	10	11	12	13	*n.*	*m.v.*	*m.w.*	M.
f.	25	71	60	14	3	173	10.416	19.00 *g*	10

From the upper half.

V.	8	9	10	11	12	13	14	*n.*	*m.v.*	*m.w.*	M.
f.	4	22	118	102	56	11	3	316	10.725	22.00 *g*	10

Combined.

V.	8	9	10	11	12	13	14	*n.*	*m.v.*	M.
f.	4	47	189	162	70	14	3	489	10.616	10

On 5th Nov. 1911, I obtained only 63 fruits from the same tree as above, because the yield was very scanty during this year. The data obtained are:

V.	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	2	27	18	13	2	1	63	9.825	9

If we compare the difference of 1910 and 1911 with that of the upper and the lower branches in 1910, we get the following.

year	M.	*m.v.*	difference	*m.v.* of the lower & upper branches	difference
1910	10	10.616	−0.791	10.415 10.726	+0.309
1911	9	9.825			

From these results we see that the weight of the friuts in the upper branches exceeds those of the lower branches as in the case of A. hibitat. Also in C. hibitat we see that the mean number of the vesicles in the upper part is greater than that of the lower. But it is clear, as the observations of A. habitat show, that such a case is only exceptional and depends on the environment of the tree. From the above results we can also see that the annual difference of vesicles is larger than that of the lower and the upper fruits in the same year.

Next I shall show the results of B. habitat. On 5th Nov. 1909, 535 fruits were collected from a *Fukuremikan* tree of about 4 m high.

The data are :

V.	6	7	8	9	10	11	12	13	14	*n.*	*m.v.*	M.
f.	1	9	72	145	152	99	40	13	4	535	9.839	10

As to local variations of vesicles I here tabulate them as follows :

Habitat	*m.v.* of 1909	diff.	*m.v.* of 1910	diff.	*m.v.* of 1911	diff.
A.	9.499	+0.34	10.087		9.226	
B.	9.839			+0.529		+0.599
C.			10.616		9.825	

As far as my observation goes, the local variation is not so great as the annual variation in the same tree. It may therefore be well conjectured, that the number of vesicles is not easily influenced by climatic and edaphic conditions, less especially by the latter, and so it seems to be of a fixed character. As regards the climatic influence my results are quite insufficient, because the variation of vesicles in Southern Japan is quite unobserved.

In the following pages the variation of the vesicles in other mandarins will be shown in order to compare results with those of *Fukuremikan* fruits.

On 5th Nov. 1909 the following result was obtained in *Kojimikan* in B. habitat.

V.	8	9	10	11	12	13	14	15	*n.*	*m.v.*	M.
f.	1	9	78	96	97	25	8	1	315	11.241	11,12

On 10th Nov. 1911, 298 fruits of *Kojimikan* were collected from the same habitat as above.

V.	9	10	11	12	13	*n.*	*m.v.*	M.
f.	8	89	108	74	19	298	11.023	11

From these two results it may be seen that the number of vesicles of *Kojimikan* is quite different from that of *Fukuremikan*.

Next I examined the number of vesicles in *Kishumikan*. On 5th Nov. 1909 the following result was obtained from B. habitat.

V.	8	9	10	11	12	13	14	15	*n.*	*m.v.*	M.
f.	4	18	102	127	84	46	7	4	392	11.1607	11

The result of 10th Nov. 1911 in the same habitat is :

V.	8	9	10	11	12	13	14	15	16	*n.*	*m.v.*	M.
f.	2	29	110	91	35	15	2	2	1	287	10.686	10

The mean number of 1911 is very like that of the *Fukuremikan* fruit of 1910 in C. habitat, but the difference of the two in general is that the fruits of *Fukuremikan* do not hold their

modes on 11, while the fruits of *Kojimikan* can do so. Hence two varieties are not always distiuguishable in the number of vesicles, though each holds a somewhat peculiar character.

Finally I examined the vesicles of *Unshumikan*. Though my investigations were restricted to a small number of fruits, I became quite convinced that the fruits of *Unshu* have not so many vesicles, notwithstanding the larger volume.

On 5th Nov. 1909, 143 fruits were picked without selection from a tree of about 3 m high in B. habitat.

The data obtained are :

V.	7	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	1	2	21	57	45	15	2	143	10.371	10

On 5th Nov. 1911 all the fruit was picked from a tree of about 1.5 m high in A. habitat.

The data are.

V.	8	9	10	11	12	13	*n.*	*m.v.*	M.
f.	1	8	21	9	10	3	52	10.528	10

If it is permissible to draw conclusions from such scanty material, we may say that the number of vesicles of *Unshumikan* very nearly coincides with that of *Fukuremikan* and no difference can be found between them. (*to be continued.*)

Observations on the Flora of Japan.

(*Continued from p. 28.*)

By

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Perilla ocimoides Linn.

α. **typica** Makino.

Perilla ocimoides Linn. Cod. n. 4215; Miq. Prol. Fl. Jap. p. 36; Franch. et Sav. Enum. Pl. Jap. I. p. 364.

Leaves green, unpleasantly odorous. Flower white.

Nom. Jap. *Egoma.*

Hab. Japan, cultivated or in escape.

β. **crispa** (Thunb.) Benth. in DC. Prodr. XII. p. 164.

Ocymum crispum Thunb. Fl. Jap. (1784), p. 248; Pers. Syn. Pl. II. p. 134; Willd. Sp. Pl. III. p. 163; Spreng. Syst. Veg. II. p. 689; Benth. in DC. Prodr. XII. p. 42.

Dentidia nankinensis Lour. Fl. Cochinch. (1790), p. 369, et ed. Willd. (1793), p. 448.

Plectranthus nankinensis Spreng. Syst. Veg. II. p. 691.

Perilla nankinensis Decne. in Rev. Hort. (1852), p. 61, cum icon; Forbes et Hemsl. in Journ. Linn. Soc. XXVI. p. 279.

Perilla arguta Benth. l. c., et Fl. Hongk. p. 276; A. Gray in Perry Exped. Jap. p. 316; Miq. Prol. Fl. Jap. p. 36; Franch. et Sav. Enum. Pl. Jap. I. p. 365.

Perilla arguta atropurpurea Nichols. Sent. Suppl. Dict. Gard. p. 590.

Mentha reticulosa Hance in Walp. Ann. III. p. 247.

Leaves argutely dentato-lacerate, crispate, dark-purple, agreeably odorous. Flower purpurascent.

Nom. Jap. *Chirimen-jiso, Chidzimi-jiso, Chôsen-jiso, Kôrai-jiso, Oranda-jiso.*

Hab. Japan, cultivated.

forma purpurea Makino, nov.

Leaves crenato-dentate, not-crisped, dark-purple, agreeably odorous. Flower purpurascent.

Nom. Jap. *Shiso, Shisô.*

Hab. Japan, cultivated.

forma discolor Makino, nov.

Leaves dentato-serrate, green above and purple beneath, purple-veined, agreeably odorous. Flower purpurascent.

Nom. Jap. *Katamen-jiso.*

Hab. Japan, cultivated.

forma viridis Makino, nov.

Leaves serrato-dentate, green, agreeably odorous. Flower white.

Nom. Jap. *Ao-jiso, Ao-so, Shiro-jiso, Shiro-so.*

Hab. Japan, cultivated.

This form very closely resembles the type, except the odour of the plant.

Salvia japonica Thunb. Fl. Jap. (1784), p. 22, tab. 5; Willd. Sp. Pl. I. (1797), p. 150; Poir. Encycl. Meth. VI. (1804), p. 634; Pers. Syn. Pl. I. (1805), p. 29; Vahl, Enum. Pl. I. (1827), p. 229; Rœm. et Schult. Syst. Veg. I. (1817), p. 263; Spreng. Syst. Veg. I. (1825), p. 69; Sieb. et Zucc. in Abh. Akad. Muench. IV. 3 (1846), p. 157; Benth. in DC. Prodr. XII. (1848), p. 354; Walp. Repert. III. (1844–45), p. 675; Engl. et Maxim. in Engler's Bot. Jahrb. VI. (1885), p. 66; ? Miq. Prol. Fl. Jap. (1866–67), p. 40.

Salvia japonica var. β. intermedia Makino in Bot. Mag., Tokyo, XI. (1898), p. 281, et XV. (1901), p. 108.

α. **typica** Makino. (Fig. VIII. *a.*)

Salvia japonica β. intermedia b. lobato-crenata Makino in Bot Mag., Tokyo, XV. (1901), p. 110.

Salvia japonica γ. bipinnata Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 372, et II. (1879), p. 463, pro parte.

Nom. Jap. *Natsu-no-tamurasô.*

Hab. Prov. Sagami: Mt. Hakone (*T. Makino*! July 1911).

This is surely identical with the plant described and figured by Thunberg in his "Flora Japonica," and is remarkable in having the much exserted stamens. After flowering the stalk of the inflorescence becomes declinate to ground and usually proliferous. The flower is deep-violet in colour, and the flowering season is July.

β. **crenata** Makino.

Salvia japonica β. *intermedia a. crenata* Makino in Bot. Mag., Tokyo, XV. (1901), p. 110.

Nom. Jap. *Ke-natsunotamurasô.*

Hab. Prov. MUSASHI: Mt. Bukô (*T. Makino*! July 20, 1888).

The plant is more hairy. The flower is pale-lilac, and opens in July. The stamens are as in the type.

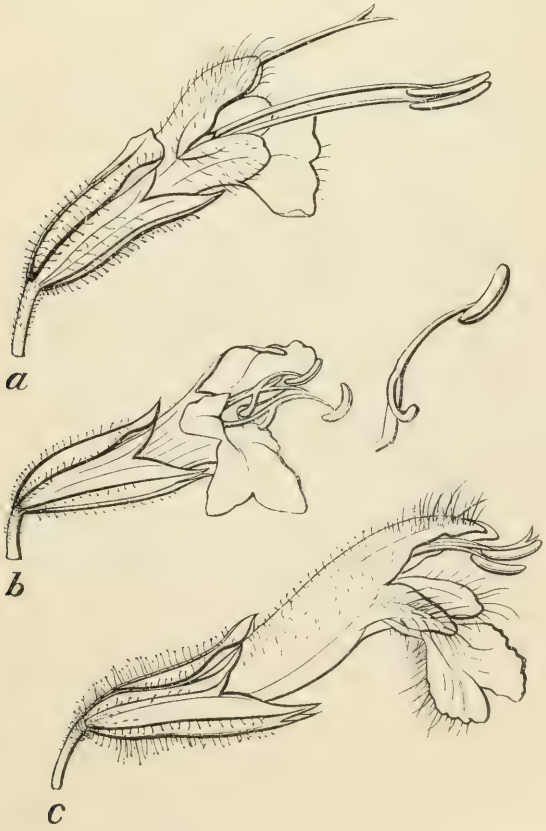

FIG. VIII. *mag.*

Salvia chinensis Benth. Lab. Gen. et Sp. (1832–36), p. 725, et in DC. Prodr. XII. (1848), p. 355; Walp. Repert. III. (1844–45), p. 675.

Salvia Fortunei Benth. in DC. Prodr. XII. (1848), p. 354, et Fl. Hongk. (1361), p. 277; Hance, Suppl. Fl. Hongk. in Journ. Linn. Soc. XIII. (1873), p. 117, et in Journ. Bot. (1874), p. 261.

Salvia diversifolia Miq. Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Batav. II. (1865–66), p. 108.

Salvia japonica Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 371, et II. (1879), p. 463, pro parte, non Thunb.

α. **typica** Makino. (Fig. VIII. *c.*)

forma a. bipinnata (Franch. et Sav.) Makino.

Salvia japonica γ. bipinnata Franch. et Sav. Enum. Pl. Jap. I. p. 372, et II. p. 463, pro parte.

Salvia japonica α. typica forma a. bipinnata Makino in Bot. Mag., Tokyo, XI. (1897), p. 281, et XV. (1901), p. 107.

Nom. Jap. *Aki-no-tamurasô.*

Hab. Japan.

forma b. pinnata Makino, nov.

Leaves simply pinnatisected or nearly so.

Nom. Jap. *Aki-no-tamurasô.*

Hab. Japan.

forma c. ternata (Franch. et Sav.) Makino.

Salvia japonica β. ternata Franch. et Sav. Enum. Pl. Jap. I. p. 372, et II. p. 463; Franch. Pl. David. I. p. 236; Diels in Engler's Bot. Jahrb. XXIX. p. 558.

Salvia japonica α. typica forma b. ternata Makino in Bot. Mag., Tokyo, XI. (1897), p. 281, et XV. (1901), p. 108.

Nom. Jap. *Mitsuba-akinotamurasô, Mitsuba-no-tamurasô.*

Hab. Japan.

forma d. integrifolia (Franch. et Sav.) Makino.

Salvia japonica α. integrifolia Franch. et Sav. Enum. Pl. Jap. I. p. 371, et II. p. 463; Diels in Engler's Bot. Jahrb. XXIX. p. 558.

Salvia japonica α. typica forma c. integrifolia Makino in Bot. Mag., Tokyo, XI. (1897), p. 281, et XV. (1901), p. 108.

Nom. Jap. *Maruba-akinotamurasô, Maruba-no-tamurasô.*

Hab. Japan.

var. β. pumila (Franch. et Sav.) Makino. (Fig. VIII. *b.*)

Salvia japonica γ. pumila Franch. et Sav. Enum. Pl. Jap. I. p. 372, et II. p. 463; Makino in Bot. Mag., Tokyo, XI. (1897), p. 281, XV. (1901), p. 110.

Nom. Jap. *Haru-no-tamurasô.*

Hab. Japan, southern.

Clematis japonica Houtt. Nat. Hist. XXVII. (1778), p. 191, tab. 55, fig. 1, non Thunb.*

Clematis florida Thunb. Fl. Jap. (1784), p. 240; Lamk. Encycl. Bot. II. (1790), p. 45; Willd. Sp. Pl. II. (1799), p. 1287.

Atragene florida Pers. Syn. Pl. II. (1807), p. 93.

Clematis Sieboldi Hort. ex Lindl. Bet. Reg, (1838), sub tab. 25.

Clematis florida var. Sieboldii G. Don in Sweet, Brit. Fl. Gard. IV. tab. 396; Planch. in Van Houtte, Fl. des Serres, V. (1849), tab. 487.

Clematis bicolor Hortul. ex Planch. l. c.

Clematis florida var. bicolor Lindl. Bot. Reg. (1838), tab. 25.

Stamens transformed, purple.

Nom. Jap. *Tessen.*

Hab. Japan, cultivated, common.

This is the type species named and described by Thunberg in his "Flora Japonica" as it will be seen from the transformed stamens. It is not the native of Japan, but was introduced from China.

β. **Simsii** Makino, nov.

Clematis florida Sims in Curtis's Bot. Mag. XXII. (1805), tab. 834, non Thunb.

Stamens normal.

Nom. Jap. *Tessen.*

Hab. Japan, cultivated, rare.

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* **Clematis japonica** Thunb. Fl. Jap. (1784), p. 240. = **C. ternata** Makino, nom. nov.

Clematis brevicaudata DC. Syst. I. (1818), p. 138, et Prodr. I. (1824), p. 3; Maxim. in Mél. Biol. IX. p. 592; Franch. Pl. David. I. p. 14; Forber et Hemsl. in Journ. Linn. Soc. XXIII. p. 3; Maxim. Fl. Tangut. n. 5, Enum. Mongol. n. 6, et Pl. Chin. Potanin. et Piasezk. in Act. Hort. Petrop. XI. p. 8; Palib. Consp. Fl. Kor. I. p. 11; Sargent, Gard. a. Forest, V. (1892), p. 138, fig. 22.

Clematis Vitalba γ. brevicaudata O. Kuntze, Monogr. Clemat. (1885), p. 100.

Clematis apiifolia var. biternata Makino in Bot. Mag., Tokyo, XX. (1906), p. 8.

Nom. Jap. *Me-botandzuru.*

Hab. Japan, central.

Zanthoxylum piperitum (Thunb.) DC. Prodr. I. p. 725.

β. **inerme** Makino, var. nov.

Prickle none or nearly so. Otherwise as in the type.

Nom. Jap. *Asakura-zanshô.*

Hab. Japan, cultivated.

Magnolia stellata (Sieb. et Zucc.) Maxim. in Mél. Biol. VIII. p. 509.

Nom. Jap. *Shide-kobushi.*

Hab. Japan, cultivated.

var. Keiskei Makino, nov.

Shrubby; branches denser. Flower smaller, deeper-coloured.

Nom. Jap. *Hime-kobushi, Usubeni-shidekobushi.*

Icon. Koishikawa-Shokubutsuyen-Sômoku-Dzusetsu, I. tab. 14.

Hab. Japan, cultivated.

(*To be continued.*)

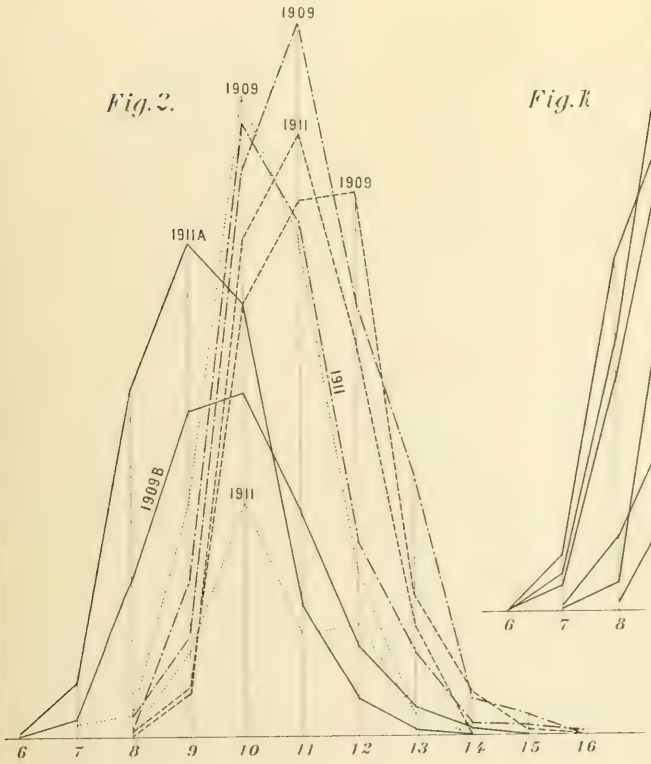


Fig. 2.

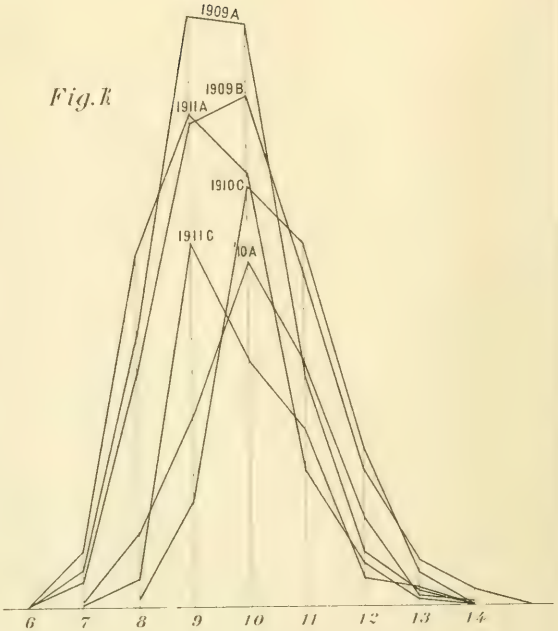


Fig. 1.

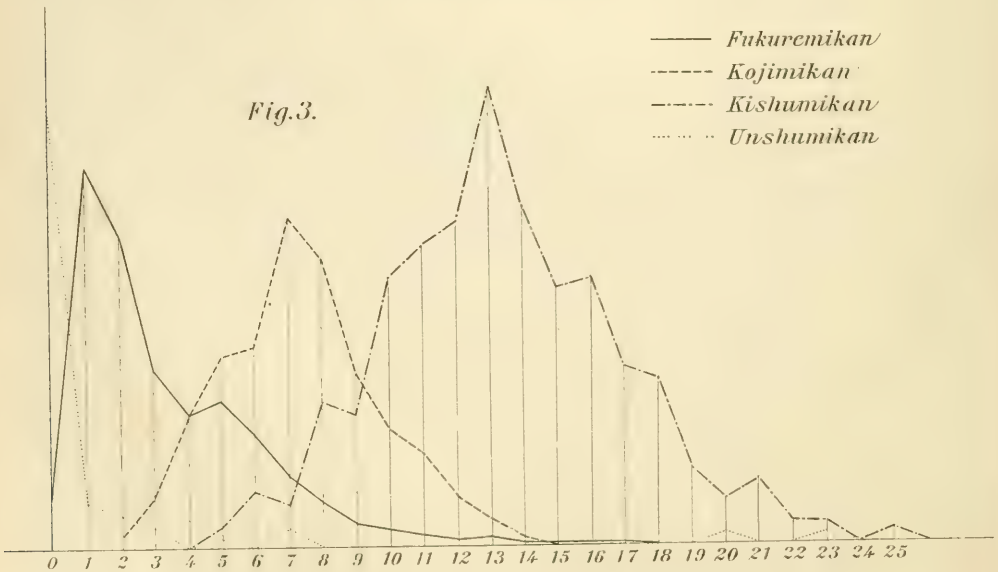


Fig. 3.

Nakano del.

F. Fujisawa sculp.

Variation in the seeds and pulp-vesicles of *Citrus Aurantium* L. subsp. *nobilis* Mak. var. *Tachibana* Mak.

(*Continued from p. 67*).

By

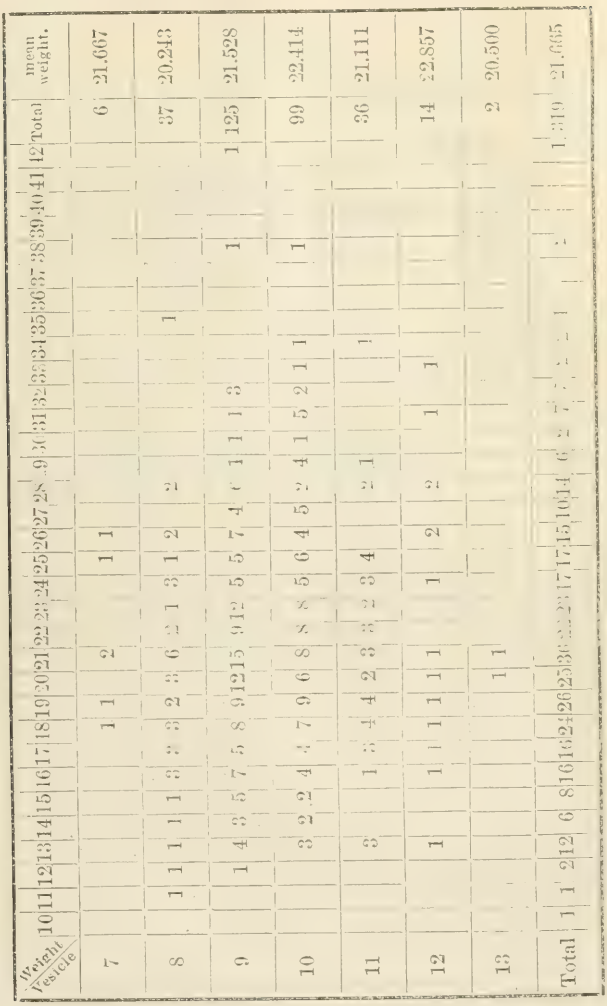
H. Nakano.

(With Plate II and one Figure in the Text.)

In the foregoing pages I have often pointed out that the weight of the fruit in the lower branches is always exceeded by that of the upper branches, while the number of vesicles does not always follow suit. This fact shows that the correlation between the weight of the fruit and the number of vesicles is not remarkably great. For this reason I have tried to find out the degree of correlation between them. For purposes of investigation, the fruit of *Fukuremikan* which was collected in A habitat, was carefully cut off from its axes, but the embedded part of the axes in the rind was not taken off. The weighing was carried out to one decimal gram and the round numbers were obtained by approximation.

From the following table it may be well explained that the weight of the fruit and the number of vesicles do not vary correlatively to a marked degree, although they run each other close. When the 11—vesicled fruit is rich in the upper part, while 10—vesicled one is rich in the lower part, the result is that the fruit of the former is greater than the latter in the number of vesicles, but less in weight. The same case can also occur between two vesicles 7 and 8, and 12 and 13.

The correlation table to this is as follows :



Weight / Vesicle	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Total	mean weight.
7									1	1		2				1	1																		6	21.667
8		1	1	1	1	1	1	3	2	3	2	3	6	2	1	3	1	2		2						1								37	20.243
9			1	4	3	5	7	5	8	9	12	15	9	12	5	5	7	4	6	1	1	1	3						1					1 125	21.528
10				3	2	2	4	4	7	9	6	8	8	8	5	6	4	5	2	4	1	5	2	1	1				1					99	22.414
11					3		1	3	4	2	3	3	2	3		3	4			2	1			1										36	21.111
12				1		1	1	1	1	1	1		1			1	2		2			1	1											14	22.857
13										1	1																							2	20.500
Total	1	1	2	1	6	8	16	16	24	26	25	30	25	23	10	15	17	11	10	14	6	7	7	2	1	1			1	2				1 319	21.665

From the observations described above, I consider it quite profitable to regulate the growth of the *Fukure* tree, so that it may not attain any great height, nor to permit it to produce luxuriant small branches around the lower part of the tree, because such conditions bring about small fruit in the lower branches.[1)]

1) Camp. K. KITAGAMI: On the culture of *Citrus* species. (Japanese). 1910. p. 75.

The variation of seeds and their Correlation to the vesicles.

The formation of seeds, especially of embryos, is in some way to the fertilization phenomena. (Although MAX. BIERMANN once observed apogamous polyembryos in *Citrus vulgaris*, RISS.,[1] he could not find parthenogenetic seeds there.)

On the other hand, some *citrus* species are characterized by their parthenocarpy. The calculation of the number of seeds can therefore give us an idea of the degree of fertility. The degree of fertility seems to be correlated with the number of pulp-vesicles in well-fertilized mandarins, while it is doubtful in parthenocarpic ones.

From the foregoing points it is clear that the usefulness of studying the degree of correlation between the number of the seeds and of the vesicles cannot be over-estimated.

In fruits having a few seeds, the counting of the seeds was easily done by dissecting them into two halves. In many-seeded ones, it was done by the pulp-vesicles being dissected one by one. The small stunted seeds (if we may say so,) which were of a reddish-yellow colour or transparent, were omitted, and the green-coloured seeds only were taken into account. First I

S. / V.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Tot.	Mean
6		1	1				1												2	3.500
7		5	6	4	5	2	2		2										26	3.346
8	7	46	30	21	17	14	9	7	4	1		1							157	2.943
9	11	51	41	29	20	24	19	7	6	3	3	3	1	2					220	3.450
10	2	44	47	14	12	21	15	13	8	3	4	6		3	1	1	1		192	3.969
11	1	16	12	7	5	5	3	4	1	2	1							1	58	3.534
12	2	5	3	2	1		1	1		2									17	3.059
13		1		1															2	2.000
Tot.	23	169	139	78	60	66	50	32	21	11	8	7	1	5	1	1	1	1	674	3.469
Mean																				9.226

[1] Beiträge zur Kenntnis der Entwickelungsgeschichte der Früchte von *Citrus vulgaris* und anderer Citrusarten. 1896 p. 44. Dissertation.

will show the correlation table in *Fukure* fruits. These fruits were collected 1911 in A habitat.

As the table shows, the variation of seeds will give a clear skew curve, which is almost one-sided. This fact is probably dependent on its poor fertility. Thus we see 23 non-seeded fruits among 674, that is about 3.4%.

As regards the correlation-coefficient, I have obtained only 0.076 ± 0.038. That is to say, they are correlated each other in a very slight degree. Glancing at the correlation-table, we see a peculiar negative correlation[1] in 10–13– vesicled fruits. Namely, the more the number of vesicles increases above 11, the more that of the seeds decreases.

Next I will show the table, obtained in *Unshumikan* 1911 in A habitat.

S. / V.	0	1	2	3	5	7	20	23	Total	Mean
8	1								1	0
9	5	1	1						8	1.200
10	20	1							21	0.476
11	4	2	1	1	1				9	1.333
12	5		1			2	1	1	10	5.900
13	3								3	0
Total	38	4	3	2	1	2	1	1	52	1.673
Mean										10.538

Although the number of variates is very small in my observations, it is nevertheless clear, that the seeds of *Unshumikan* show a "halbe Galton-Kurve." Thus we see 38 non-seeded fruits among the total of 52 fruits; that is 73 % of these fruits are not fertile.

Here the manner in which the seeded fruits were produced is not clear. It may perhaps be due to the fertilization of other mandarins as the late Prof. IKEDA pointed out. At any rate it seems to be true that poor fertility shows a half Galton-curve.

1) Camp. VERNON: Variation in animals and plants, 1903. p. 73.
JOHANNSEN: Elemente der exakten Erblichkeitslehre, 1909. p. 248.

De Vries[1] mentions many examples of the variations of one-sided curves and states that such variations generally occur in the cases of "Halbrasse."[2] Whether our *unshumikan* is a hybrid or not, has not yet been decided, but it seemes to be a very likely conjecture, becauce the degeneration of pollen is very often noticed in hybrids. This opinion has already been stated by Mr. I. Osawa.

As regards the meaning of "halbe Galton-Kurve," it may be quite right, as *Johannsen* mentions[3] to explain that it is no more than a special case of skew curves. As will be seen from the following pages, the curves of the variation of seeds in *Kojimikan* and *Kishumikan* are almost symmetrical, and the curve of *Fukuremikan* is nearly one-sided, while that of *Uushumikan* is quite half a curve. Thus it is clear, that the skewness reached its maximum in *Unshumikan*.

As the data relating to *Unshumikan* are insufficient, the correlation-coefficient calculated will be also a defective one, which shows 0.309 ± 0.092.

Finally the correlation tables in *Kojimikan* and *Kishumikan* will be shown as follows :—

Kojimikan

V. \ S.	2	3	4	5	6	7	8	9	10	11	12	13	14	Total	Mean
9	1													8	6.750
10	1	5	10	10	10	20	15	7	3	3	3	2		89	6.910
11		3	6	13	13	20	18	14	8	9	2	2		109	7.546
12		1	6	9	10	11	15	7	7	4	2	1	1	74	7.527
13			1	1	2	5	2	3	3	1	1			19	8.000
Total	2	9	23	34	36	59	51	31	21	17	9	5	1	298	7.359
Mean															11.023

$$r = 0.414 \pm 0.032, \quad \frac{y}{x} = 0.414$$

[1] Ueber halbe Galton-Curven als Zeichen discontinuirlicher Variation Ber. d. deutsch. bot. Geselsch. 1894. p. 197–207.

[2] Mutationstheorie, Bd. I. p. 428–435.

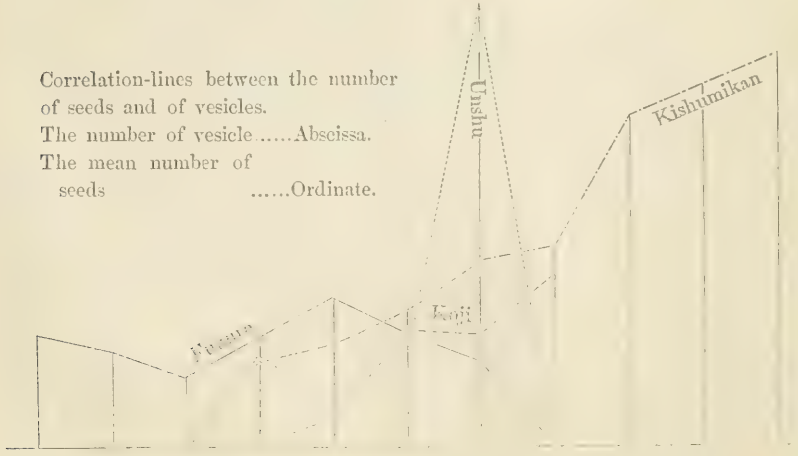
[3] l. c. p. 192.

Kishumikan

S. \ v.	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Tot.	Mean
8				1		1																2	9.000
9		2	1		2	4	5	3	5	3	1	2	1									29	11.690
10	1	3	1	7	6	10	10	10	19	13	8	8	6	6	1	1						110	12.691
11	1		2	3	4	7	8	12	14	7	7	9	6	4	3	2	1	1				91	13.451
12				1		2	2	2	2	6	5	5	2	4	1		2		1			35	15.114
13				1			2	2	1	1	2		1		1	1	2				1	15	15.600
14															1		1					2	20.
15														1					1			2	21.
16																		1				1	22.
Tot.	2	5	4	13	12	24	27	29	41	30	23	24	16	15	7	4	6	2	2	0	1	287	13.330
Mean																							10.686

$$r = 0.407 \pm 0.033. \quad \frac{y}{x} = 0.407$$

The variation of the seeds in *Kojimikan* shows a monomodal curve, as well as in that of *Kishumikan*, where a little irregularity is caused by scanty material. The correlations in both mandarins, as the tables show, are remarkable, especially in *Kojimikan*. These two facts point to their strong fertility, because many vesicled fruits in poorly fertilized mandarins have not necessarily many seeds.



Now let us imagine the relationship between four kinds of mandarins. From the general law of hybrids we think that a well-fertilized plant is closer to the stock plant than a poorly fertilized one. From this point of view *Kishumikan* and *Kojimikan* seem to have a nearer kinship to the mother plant, than the other two. Peculier as it is, it seems to me, that *Kojimikan* is the original and *Fukuremikan* is its variety, because the degree of fertility is larger in the former than in the latter. This point wants a further investigation.

In conclusion I wish to express my hearty thanks to Prof. Miyoshi and Mr. T. Makino for their valuable suggestions. Also I must express my sincere thanks to Mr. R. Aylmer Coates who has helped me with much favor for correcting my English.

Dec. 1911. Bot. Institute,
Imp. Univ. Tokyo.

Summaries.

From all the results above mentioned, the following summaries may be deduced.

1. The variation in the number of pulp-vesicles in the four races of *Citrus Aurantiun* L. Subsp. *nobilis* Mak. var. *Tachibana* Mak. shows a monomodal curve and the mode is held on 9, 10 or 11.

   The variation in the seeds of poorly fertilized mandarins gives a strongly skew curve, even a half Galton-curve, while well-fertilized ones, show a symmetrical curve.

   On the point of number of seeds and vesicles, *Fukuremikan* and *Uushumikan* are very nearly allied. *Kishumikan* is slightly distinguishable from the above two by the number of vesicles, while in the same point *Kojimikan* is clearly different from other mandarins. The difference of the four kinds of mandarins is more pronounced in the number of seeds than in that of vesicles.
2. As far as my observations go, the local variation of vesicles is not so great as to cause its mode to change its position and it is very like the annual variation in the same tree. It

may therefore be conceded that the number of vesicles is of an almost stationary character.

3. The greater average weight in the fruit of the upper part of the *Fukuremikan* tree is not always correlative with the greater average number of vesicles. The correlation-table between the weight of the fruit and the number of vesicles clearly shows that they are not correlated in a remarkable degree, and so the above result is obtained.
4. The correlation between the number of seeds and of vesicles can be well observed in well-fertilized mandarins, but in poorly-fertilized ones it is not great; for instance, in *Fukuremikan* a negative correlation may be observed in part of the correlation-table and hence the correlation-coefficient is very small.

EXPLANATION OF PLATE II.

Fig. 1. Variation of the pulp-vesicles of *Fukuremikan*.
1909 A.....Variation of 1909 in A habitat.
1909 B..... ,, ,, ,, in B ,,
1910 C..... ,, ,, 1910 in C ,,
&c.

Fig. 2. Variations of the pulp-vesicles in the four kinds of mandarins.
The line———for *Fukuremikan*.
,, ... ,, *Unshumikan*.
,, ------ ,, *Kojimikan*.
,, -·-·-·- ,, *Kishumikan*.

Fig. 3. Variation of the seeds of the four kinds of mandarins.
The symbols are the same as in Fig. 2.

Notulæ ad Plantas Japoniæ et Koreæ. IV.

auctore

T. Nakai.

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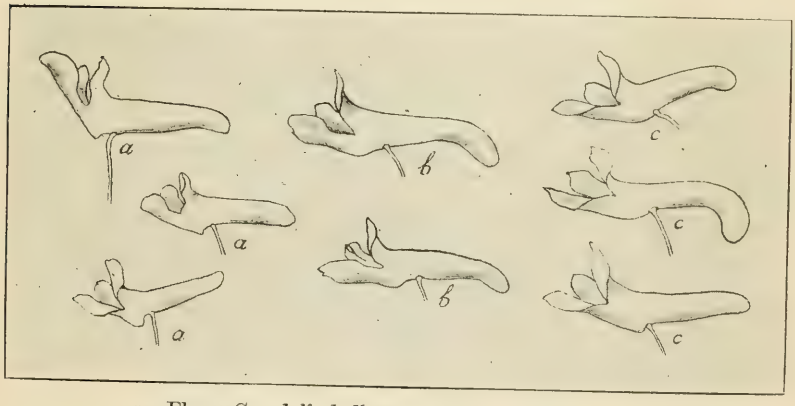
53) **Clematis fusca** Turcz. v. **violacea** Maxim. Prim. Fl. Amur. p. 11. Kom. Fl. Mansh. II. p. 287.

Korea: Pyeng-yang: 18. VI. 1911 (H. Imai).

Planta nova ad Floram Koreanam.

Fig. 1.



a. Flores Corydalis bulbosæ.
b. Flores C. bulbosæ v. remotæ ex Manshuria et Korea.
c. Flores C. bulbosæ v. remotæ ex Japonia.

54) **Corydalis bulbosa** (Gorter) DC. Fl. Fran. IV. (1805) p. 637.

Fumaria bulbosa Gorter Flora Ingrica Appendix (1764) p. 201.

F. solida Ehrhart Beiträge Naturk. I. (1787) p. 149.

Corydalis solida (Ehrh.) Smith Flora Britannica III. (1804) p. 353.

var. **remota** (Fischer).

Corydalis remota Fischer in Herb. ex Maxim. Prim. Fl. Amur. (1859) p. 37.

Fr. Schmidt Florula Amg.-Burej. p. 33. n. 43. Kom. Fl. Mansh. II. p. 349.

C. bulbosa (non DC.) Turcz. Cat. Baic.-Dah. in Bull. Soc. Nat. Mosc. (1838) n. 98. Franch. Pl. Dav. 28. Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 36.

C. solida subsp. *remota* Korsch. in Act. Hort. Petrop. XII. p. 306.

C. gamosepala Maxim. Prim. Fl. Amur. p. 39.

C. ambigua β. amurensis Maxim. l. c.

Flores vulgo majores quam in C. bulbosa. Gibber corollæ minus productus. Bracteæ vulgo irregulariter fissæ.

forma 1. **genuina** Maxim. Prim. Fl. Amur. p. 38. Regel Pl. Radd. 139. Kom. Fl. Mansh. II. p. 351.

Folia biternata. Segmenta foliorum elliptica v. rotundata. Tuber vulgo aureo-suffusus.

Lusus. 1. Segmenta foliorum oblongo-cuneata integra v. apice 1–3 fida incisave.

Kobano-engosaku Y. Inuma Sōmokudzusetsu Vol. XIII. (1856) fol. 4 fig. V.

Hab. Dahuria, China, Manshuria et Korea.

Lusus. 2. Segmenta foliorum oblonga v. elliptica utrinque acuta v. apice obtusa. Tuber vulgo albus.

C. bulbosa α. typica Makino in Tokyo Bot. Mag. VIII. (1894) p. 227.

Engosaku v. *Zirobo* in Noyama-Sōmokutsūshi I. folio. 33 verso et B. Minamoto Yoshinogunchūbussanshi fol. 14 vers.

Hab. Japonica.

Lusus. 3. Folia triternata. Segmenta foliorum rotundata acuta v. obtusa.

C. bulbosa γ. rotundiloba Makino in Tokyo Bot. Mag. VIII. (1894) p. 227.

Hab. Nippon.

Lusus. 4. Folia 2–3 ternata. Segmenta foliorum ovato-lanceolata, omnia longissime petiolulata.

C. laxa Fran. et Sav. Enum. Pl. Jap. II. p. 372.

Hab. Nippon.

forma. 2. **rotundiloba** Maxim. l. c.

Folia biternata. Segmenta ambitu rotundato-obovata v. rhombeo-cuneata crassiuscula. Tuber vulgo aureo-suffusus.

Lusus. 1. Segmenta foliorum ambitu rotundato-obovata apice truncata v. obtusa integra v. pectinato-incisa.

C. remota v. *rotundiloba* Maxim. l. c. Kom. Fl. Mansh. II. 351.

C. solida v. *rotundiloba* (Maxim.) Regel Pl. Radd. I. p. 139.

C. Vernyi Fran. et Sav. Enum. Pl. Jap. II. p. 273. p. p.

Engosaku in J. Shimada Kwai Herb. II. (1765) p. 10. T. Ono Honzō-Kōmokukeimō Vol. IX. Herb. II. (1803) fol. 14. Zyūtei-honzōkōmokukeimō Vol. IX. Herb. II. (1844) folio 15.

C. ambigua (non Cham. et Schlecht.) Y. Tanaka et T. Ono Yūyōshokubutsudzusetsu (1891) II. n. 404.

Hab. Manshuria et Korea.

Lusus 2. Segmenta foliorum versus apicem lata pectinato-incisa.

C. remota v. *pectinata* Kom. Fl. Mansh. II. p. 350.

Hab. Manshuria.

Lusus 3. Segmenta foliorum versus apicem dilatata, bis tripartita.

C. fumariæfolia Maxim. Prim. Fl. Amur. p. 39.

C. remota v. *fumariæfolia* (Maxim.) Kom. Fl. Mansh. II. p. 351.

Hab. Manshuria et Korea.

forma 3. **lineariloba** Maxim. Prim. Fl. Amur. p. 38.

C. lineariloba Sieb. et Zucc. Fl. Jap. Fam. Nat. I. (1843) n. 286.

C. orthoceras S. et Z. l. c.

C. solida v. *linearis* Regel Pl. Radd. I. p. 139. Miq. Prol. Fl. Jap. p. 200.

C. solida v. *orthoceras* Miq. l. c.

C. senanensis Fran. et Sav. Enum. Pl. Jap. II. p. 273.

Chikuyo-engosaku S. Sato Sōmoku-rikubu-Kōshuhō. Vol. III. (1874) fol. 20.

Hab. Manshuria, Korea et Japonia.

forma 4. **capillaris** Makino in Tokyo Bot. Mag. XII. 119. pro var. Caulis capillaris. Folia 3–4 ternata. Segmenta foliorum parva, rotundato-obovata.

Hab. Shikoku.

forma 5. **ternata** Nakai.

Folia ternata. Segmenta foliorum rhombeo-cuneata v. ovata ac margine serrata rarius bisecta.

C. vernyi Fran. et Sav. Enum. Pl. Jap. II. p. 273. p. p.

Obano-engosaku in Sōmokudzusetsu Vol. XIII. fol. 4. (1856) fig. IV. Icon. ined. Honzō-zufu Vol. VII. fig. 26 et 27 ? (1839).

Hab. Korea.

55) **Triumfetta subpalmata** Solander in herb. ex Hemsl. in Journ. Bot. (1890) p. 2. t. 293 I.

T. procumbens (non Forst.) Benth. Fl. Hongk. I. p. 273. pro maj. part.

Nippon : insula Iwōtō. XI. 1907. (B. Kawate).

Planta nova ad Floram Japonicam.

56) **Euonymus Hamiltoniana** Wall. var. **Maackii** (Rupr.) Kom. Fl. Mansh. II. p. 710.

E. Maackii Rupr. in Bull. St. Petersb. XV (1857) p. 358. C. K. Schneider Illus. Handb. Laubholzk. II. p. 177.

E. Hamiltoniana forma *Maackii* Maxim. in Mél. Biol. XI. (1881) p. 193.

Korea : monte Chiisan. n. 14. (H. Ueki).

Distr. Manshuria.

57) **Euonymus pauciflora** Maxim. Prim. Fl. Amur. p. 74. Fr. Schmidt. Fl. Amg.-Burej. n. 90. Kom. Fl. Mansh. II. p. 705. C. K. Schneider Illus. Handb. Laubholzk. II. p. 170 fig. 112. g–h.

E. verrucosa var. *pauciflora* (Maxim.) Regel Tent. Fl. Uss. n. 120. Maxim. in Mél. Biol. XI. p. 195. Korsch. in Act. Hort. Petrop. XII. p. 320.

Korea : monte Chiisan n. 22. (H. Ueki).

Distr. Regio Ussuriensis et Manshuriensis.

Planta nova ad Floram Koreanam.

58) **Koelreuteria paniculata** Laxm. Nov. Comm. Petr. XVI. p. 561. t. 18. Miq. Prol. Fl. Jap. p. 256. Fran. et Sav. Enum. Pl. Jap. I. p. 85. DC. Prodr. I. p. 616. Franch. Pl. Dav. p. 75. Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 138.

Nom. Jap. Muku-genzi.

Korea: Mulgeum. 11. X. 1902. (T. Uchiyama).

Distr. China.

59) **Raphiolepis umbellata** (Thunb.) Makino in Tokyo Bot. Mag. XVI. (1902). p. 13. C. K. Schneider Illus. Handb. Laubholzk. I. (1906) p. 705 fig. 390 h–i et in Fedde Repert. (1907) p. 152.

Laurus umbellata Thunb. Fl. Jap. (1784) p. 175.

Raphiolepsis japonica Sieb. et Zucc. Fl. Jap. I. (1835) p. 162. t. 85. Fran. et Sav. Enum. Pl. Jap. I. p. 142.

Nom. Jap. Sharinbai.

Korea: Chŏlla: Mokpho 1911. (H. Ueki).

60) **Glossogyne tenuifolia** Cass. DC. Prodr. V. p. 632. Benth. Fl. Hongk. p. 184. et Fl. Austr. III. p. 544. Seem. Fl. Vitiensis p. 144. Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 436. Matsum. et Hayata Enum. Pl. Form. p. 206.

Nom. Jap. Seriba-Sendangusa.

Nippon: insula Iwōtō. XI. 1907. (B. Kawate).

Planta nova ad Japoniam propriam.

61) **Ligustrum medium** Fran. et Sav. Enum. Pl. Jap. II. p. 437.

Nom. Jap. Oba-ibota.

Korea: monte Chiisan 1911. (H. Ueki)

Planta nova ad Floram Koreanam.

62) **Gentiana scabra** Bunge *a.* **Bungeana** Kusnez. forma **angustifolia** Kusnez. Nakai Fl. Kor. II. p. 99.

Korea: circa Suigen 1911. (H. Ueki).

63) **Mazus stachydifolius** (Turcz.) Maxim. in Mél. Biol. IX. p. 404. Franch. Pl. Dav. p. 222. Forbes et Hemsl. in Journ. Linn. Soc. XXVI. p. 183. Freyn. in Oest. Bot. Zeit. (1902). p. 402. Kom. Fl. Mansh. III. p. 418.

Tittmannia stachydifolia Turcz. Bull. des Natur. de Mosc. XI. p. 156.

Vandellia stachydifolia (Turcz.) Walp. Repert. III. p. 214.

V. oborata Herder in Act. Hort. Petrop. I. p. 580.

Korea: circa Pyeng-yang. 18. VI. 1911. (H. Imai).

Planta nova ad Floram Koreanam.

64) **Phyllanthus** (Euphyllanthus) **boninsimæ** Nakai sp. nov. Perennis? Planta basi lignosa ramosa. Rami hornotini filiformes flexuosi. Stipula ovato-lanceolata acutissima 1 mm. longa integerrima v. obsolete serrulata. Folia disticha elliptica v. oblongo-elliptica utrinque acuta v. obtusiuscula penninervia, subtus pallidiora 2–12 mm. longa, 1–4 mm. lata. Flos ♂ sepalis 6, obovatis, apice obtusissimis; glandulis 6 obovato-orbiculatis, sepalis alternis; staminibus 3 toto connatis; antheris horizontali dehiscentibus. Flos ♀ sepalis 5, obovato-lanceolatis apice acutinsculis; stylis 3 patentibus bifidisve. Capsula globosa laevia. Semina longitudinali striati simulque transverserugosi.

Bonin: Omura IV. 1906. (B. Kawate).

Ph. Niruri affinis sed sepalis 6 et forma styli, foliis acerioribus ac laxius dispositis differt.

65) **Triglochin maritima** L. Sp. Pl. p. 483. Maxim. Prim. Fl. Amur. p. 267. Miq. Prol. Fl. Jap. p. 71. Fran. et Sav. Enum. Pl. Jap. II. p. 17. Aschers. et Graebn. Mitteleuropafl. I. p. 376. Thome Fl. Deutsch. Oest. Schw. I. p. 79. Kom. Fl. Mansh. I. p. 229. Buchenau Schuechzeriaceæ p. 8.

T. atacamensis Phil. Fl. Atac. (1860) p. 49. p. p.

Nom. Jap. Shibana.

Korea: Chemulpo, 17. IX. 1902 (T. Uchiyama).

Distr. in litore maris bor. hemisphaericæ.

Planta nova ad Floram Koreanam.

66) **Eriocaulon cauliferum** Makino in Tokyo Bot. Mag. XXIV. p. 165 cum. fig.

Korea: circa Suifien no. 57 (H. Ueki).

Speciei *E. bifistuloso* quum non vidi arcte affinis esse videtur; Ex descriptionibus exquo tantum differt. Caule semper simplici. Petalorum lobis florum masculorum apice ciliatis atque nigro-punctatis. An varietas propria?

Planta nova ad Floram Koreanam.

67) **Platanthera Okuboi** MAKINO in Tokyo Bot. Mag. XIX. p. 25.

Bonin: Kiyose III. 1906 (B. KAWATE).

Planta nova ad Floram Boninensem.

68) **Schœnus** (Paniculatæ) **Hattorianus** NAKAI sp. nov. Rhizoma repense squamis brunneis imbricatis obtectum. Caulis proxime congestus 2–6 pedalis v. ultra teres. Folia 1–2, omnia basilaria vaginantia, ore barbata 1–2 pollicaria. Lamina foliorum rigida lanceolata acutissima 5–8 mm. longa. Bracteæ vaginantes 4–7 mm. longæ, laminis 4–5 mm. longis acutis continuæ, vaginis ore barbulatis. Panicula secunda laxa. Spicula longe-pedunculata, pedunculis gracilibus semiteretibus v. obsolete-triangularibus. Squamæ involucrantes distichæ utrinque 3–4, interiores longissimæ 6–7 mm. longæ, extima brevissima 1 mm. longa late-ovata; onmes fuscæ. Glumæ quisque flore unicæ lanceolatæ fuscæ. Flores hermaphroditi. Stamina tria. Antheræ lineares. Styli parum exerti apice trifidi sed conniventes. Ovarium obovoideum triangulare, faciebus reticulatis, angulis elevatis.

Nom. Jap. Zyōi ie. Juncus 10 pedalis.

Bonin: Hatsune (H. HATTORI et B. KAWATE).

Species Australiensis et Borneo-philippinensis *S. melanostachyus* proxima venit sed laminis foliorum expansis, bracteis vaginantibus lanatis, glumis florum obtusis, seminibus tuberculatis ab hac speciei distat.

69) **Ischæmum australe** R. BR. Prodr. p. 205. BENTH. Fl. Austr. VII. p. 519.

Andropogon cryptatherus STEND. Syn. Glum. I. p. 376.

Bonin: insula Minamishima XII. 1906 (B. KAWATE).

Planta nova ad Floram Japonicam.

70) **Panicum flavidum** Retze. Obs. IV. p. 15. Kunth Enum. I. p. 78. Benth. Fl. Austr. VII. p. 434. Hook. fil. Fl. Brit. Ind. VII. p. 28.

P. brizoides Trin. Gram. t. 158.

Bonin. XII. 1910. (B. Kawate).

var. **distans** (Trin.) Hook. fil. l. c. p. 29.

P. distans Trin. Gram. t. 172.

Bonin. XII. 1910 (B. Kawate).

Distr. sp. et var. Asia austr. et Australia.

Plantae novae ad Floram Japonicam.

Artemisiæ Japonicæ.

Sect. I. **Dracunculus** Bess. in Bull. Soc. Nat. Mosc. VIII. (1835) p. 1. DC. Prodr. VI. (1837) p. 93. Maxim. in Mél. Biol. VIII. p. 523.

Flores radii feminæi fertiles, disci bisexuales sed abortu ovarii steriles.

1. Radix annua, Folia caulina bipinnata glabra, lacinis capillaribus, 5 mm. latis. Inflorescentia paniculata. Capitula nutantia minima 1 mm. vix lata. Involucri squamæ glaberrimæ.....*Art. scoporia* Waldst. et Kit.
Radix perennis. .....2.

2. Capitula obconica basi turbinata apice 3 mm. lata. Folia radicalia longissime-petiolata ambitu rhomboidalia bipinnata, lacinis angustis 1.5 mm. latis. Folia caulina pinnata. Inflorescentia paniculata. Capitula nutantia.
..... *Art. Fukudo* Makino.
フクド ハマヨモギ
Capitula ovoidea basi obtusa .....3.

3. Capitula diametro 1–1.5 mm. lata. Lacini foliorum capillares. .....4.
Capitula diametro 1.5–2 mm. lata. Lacini foliorum non capillares. .....5.

4. Folia caulina glaberrima v. glabrescentia, radicalia sericea. ..... *Art. capillaris* THUNB.
カハラヨモギ
Folia caulina sericea, radicalia subargenteo-sericea. ..... *Art. capillaris* v. *sericea* NAKAI.

5. Caulis et inflorescentia juvenilis fusco-lanatus. Folia bipinnatifida v. secta, lacinis lanceolatis v. linearibus. Capitula globosa ..... *Art. desertorum* SPRENG.
Caulis et inflorescentia juvenilis glaberrimus v. pilosus. Capitula ovata ..... 6.

6. Folia simplicia apice varie incisa. ..... *Art. japonica* THUNB.
Folia caulina cuneata. Inflorescentia densa. ..... forma *typica* NAKAI.
チトコヨモギ
Folia caulina obovata, basi subito attenuata. Inflorescentia dense-congesta ..... forma *spatulata* NAKAI.
Folia ut in typica sed flores laxissime dispositi. ..... forma *laxiflora* NAKAI.
Folia 1–2 pinnatifida, lacinis linearibus. ..... forma *resedifolia* TAKEDA.
ホソバチトコヨモギ

71) **Artemisia capillaris** THUNB. Fl. Jap. p. 310.

var. **sericea** NAKAI

Folia radicalia bipinnata, segmentis linearibus subargenteo-sericeis; caulina pinnata, segmentis capillaribus sericeis. Inflorescentia racemoso-paniculata ambitu semifusiformis, rhachibus et pedicellis sericeis. Capitula ut in typo.

Nippon: Hachinohe VIII. 1900 (N. KINASHI) prov. Rikuchu (Y. CHIBA).

72) **Artemisia japonica** THUNB. Fl. Jap. p. 310.

forma **spatulata** NAKAI.

Folia caulina obovata basi subito-attenuata. Infloresentia dense congesta.

Nippon: circa Mito X. 1911. no. 54 (I. ANDO).

forma **laxiflora** Nakai.

Folia caulina cuneata apice varie incisa. Inflorescentia laxissima.

Nippon: circa Mito X. 1911 no 50 (I. Ando).

Sect. II. **Abrotanum** Bess. in Nouv. Mém. Soc. Nat. Mosc. III. p. 105. DC. Prodr. VI. p. 105.

Capitula hetetogama. Flores radii foeminei, disci hermaphrodites, omnes ferties.

1. Radix annua ..... 2.
   Radix perennis ..... 3.

2. Folia tripinnatisecta glabra, lacinis angustis 0.5–1 mm. latis. Capitula parva 1 mm. lata nutantia..... *Art. annua* L. クソニンジン
   Folia 2–3 pinnata glabra, lacinis linearibus 1 mm. latis. Inflorescentia paniculata. Capitula nutantia 3–4 mm. lata. ..... *Art. apiacea* Hance. カハラニンジン

3. Flores vulgo diametro 3 mm. excedentes. ..... 4.
   Flores diametro 3 mm. vix attingentes. ..... 8.

4. Inflorescentia corymbosa. Folia caulina pinnatifida, involucri squamæ extus albidæ..... *Art. glomerata* Ledeb.
   Racemus simplex v. paniculatus..... 5.

5. Involucri squamæ glaberrimæ. Folia cuneata apice varie incisa v. serrata, utrinque sparse arachnoidea. Flores longisimepedunculati nutantes diametro 5–10 mm. ..... *Art. pedunculosa* Miq. ミヤマチトコヨモギ
   Involucri squamæ extus lanatæ ..... 6.

6. Folia simplicia acute-dentata supra sparse arachnoidea, dentibus elongato-triangulatis v. lanceolata-triangulatis. Flores paniculati vulgo erecti 3–4.5 mm. lati. 5–6 longi. ..... *Art. Koidzumii* Nakai.
   Folia pinnatifida utrinque lanata v. supra dense arachnoidea. ..... 7.

7. Racemus spicatus. Flores diametro 6–12 mm. lati, hemisphærici..... *Art. stelleriana* Bess. シロヨモギ
   Racemus paniculatus. Flores diametro 3–4.5 mm. lati. ..... *Art. stelleriana* Bess. v. *sachalinensis* Nakai.

8. Folia tripinnata supra viridia, subtus pallidiora glabra v. pilosa. Inflorescentia paniculata. Flores nutantes. .....9.
Folia simplicia v. tantum pinnta et si bipinnatisecta subtus incana.....10.

9. Rachis foliorum integra. Lacini foliorum lanceolati. Racemus paniculatus. Capitula globosa nutantia 2–3 mm. lata. .....*Art. laciniata* WILLD. v. *laciniata* MAXIM.
ジコタンヨモギ
Rachis foliorum pectinata. .....*Art. sacrorum* LEDEB.
Lacini foliorum 1 mm. lati elongati. Folia 5–6 cm. lata. ..... v. *laciniæformis* NAKAI.
Lacini foliorum 1.5–2.5 mm. lati. Folia 4–5 cm. lata, subtus pallidiora. ..... v. *intermedia* LEDEB. *α. viridis* KOMAROV.
ホソバイハヨモギ
Lacini foliorum 2–3 mm. lati. Folia 6–8 cm. lata. ..... v. *latiloba* LEDEB.
イハヨモギ. カムイヨモギ

10. Folia simplicia varie incisa v. dentata.....11.
Folia 1–2 pinnatifida .....13.

11. Folia lanceolata caudato-acuminata irregulariter serrata, subtus nivea. Racemus spicato-dispositus. *Art. integrifolia* L.
ヒトツバヨモギ
Folia obovata v. subspatulata grosse-dentata.....12.

12. Capitula ovata incana v. dense arachnoidea. Folia subtus v. utrinque incana, lacinis stipulaceis vulgo evolutis. stolonifera..... .....*Art. stolonifera* (MAXIM.) KOM.
Capitula globosa glaberrima. Planta a gemmis v. a sobolibus, v. a rhizomatibus ascresens. .....*Art. Keiskeana* MIQ.
イヌヨモギ
Folia utrinque glabra .....forma *α. typica* NAKAI.
Folia subtus hirtella .....forma *hirtella* NAKAI.
Folia subtus incana.....forma *hypoleuca* NAKAI.

13. Capitula parva oblonga cca. 1 mm. lata. Folia pinnata, lacinis foliorum superiorum angustis 1–2 mm. latis. Caulis elatus 3–8 pedalis. Panicula elongato-fusiformis. Squamæ involucri fuscentes. .....*Art. lavandulæfolia* DC.
ヒメヨモギ

| Capitula 1.5–2.5 mm. lata ovata v. oblongo-ovata v. obloga. Squamæ involucri scariaso-viridescentes v. albescentes. Mores plantæ variabillimi.....*Art. vulgaris* L.

73) **Artemisia stelleriana** Bess. var. **sachalinensis** Nakai.

A. stelleriana Regel Gart. Fl. (1886) p. 36. t. 498. Herder Pl. Radd. III. iii p. 82. pro parte.

Habitat in Sachalin.

A typo differt, caule elatiore, racemo paniculato, capitulis minoribus. Insuper folia supra minus incana.

74) **Artemisia lavandulæfolia** DC. Prodr. VI. p. 119. Kom. Fl. Mansh. III. p. 678.

A. vulgaris v. *lavandulæfolia* Maxim. Mél. Biol. VIII. p. 538. Fran. et Sav. Enum. Pl. Jap. II. p. 404. in clave.

A. vulgaris forma *lavandulæfolia* Palib. Consp. Fl. Kor. I. p. 116.

A. minutiflora Nakai in Tokyo Bot. Mag. XXV. p. 56 et Fl. Kor. II. p. 30.

A. vulgaris v. *indica* Hayata Comp. Form. p. 24 et Enum. Pl. Form. p. 207. pro omnino.

Nom. Jap. Hime-jomogi.

Hab. Nippon media et australis, Shikoku et Kiusiu.

Distr. China, Manshuria, Korea et Formosa.

75) **Artemisia sacrorum** Ledeb. Fl. Alt. IV. p. 72. et Fl. Ross. II. p. 578.

var. **latiloba** Ledeb. l. c.

Hab. in Jeso et in Sachalin.

var. **intermedia** Ledeb. l. c. Maxim. in Mél. Biol. IX. p. 529. Kom. Fl. Mansh. III. 663

forma **viridis** Ledeb. l. c. Kom. l. c.

A. Messerschmidtiana α. viridis f. *typica* Nakai Fl. Kor. II. p. 31.

A. sacrorum Koidzumi in Journ. Sci. Coll. XXVII. art. 13. p. 119.

In Sachalin et in Jeso vulgaris.

var. **laciniæformis** Nakai.

Forma *A. laciniatæ* similis sed rhachis foliorum pectinata et etiam *A. Gmelini* similis sed planta est major, folia longe latiora et quorum lacini multo elongati.

Hab. in Jeso.

76) **Artemisia vulgaris** L. Sp. Pl. p. 848.

var. **vulgatissima** Bess. Abr. p. 53.

Multæ formæ cum hac adhuc confusæ fuerunt, sed non crescit in Japonia. In Europa et in Sibiria vulgaris est. Specimen Savatiere quod in Herbario Tokyoense servatur, est sine dubio planta Europæ.

var. **gilvescens** (Miq.).

Art. gilvescens Miq. Prol. Fl. Jap. p. 107. Maxim. in Mél. Biol. VIII. p. 536 in nota. Fran. et Sav. Enum. Pl. Jap. I. p. 239 pro p. II. p. 403.

Planta robusta 2–3 pedalis. Caulis superior incano-lanatus. Folia subtus incana, ambitu ovata v. petiolum alatum subito attenuata, pinnatim incisa, lacinis ovato-lanceolatis acuminatis. Capitula 2–2.5 mm. lata.

In Jeso a K. Ito lecta est. In Horto Botanico Koishikawense sub nomine *Ojomogi* colitur.

var. **latiloba** Ledeb. Fl. Alt. IV. p. 83. et Fl. Ross. II. p. 586. DC. Prodr. IV. p. 113.

Nom. Jap. Jama-Jomogi.

Planta robusta et elata 4–7 pedalis. Caulis superior incano-tomentellus. Folia subtus incana ambitu ovata v. oblongo-ovata, pinnatim incisa, lacinis lanceolatis v. oblongo-lanceolatis. Capitula 2–2.5 mm. lata.

In Nippon boreale, Jeso et in Sachalin est vulgaris, in Nippon media in regionibus montanis tantum crescit.

var. **indica** (Willd.) Maxim. in Mél, Biol. VIII. p. 536. Fran. et Sav. Enum. Pl. Jap. I. p. 240.

Art. indica Willd. Sp. Pl. III. p. 1846. DC. Prodr. VI. p. 114.

Planta humilis v. elata. Caulis superior incanus. Folia subtus nivea, ambitu ovata, pinnatim incisa, lacinis lanceolatis

v. lineari-oblongis, acutis v. mucronatis. Capitula 1.5–2 mm. lata.

forma *α.* **typica** Nakai. Inflorescentia foliacea.

In Japonia tantum in Formosa crescere videtur.

forma *β.* **nipponica** Nakai. Inflorescentia non foliacea. Folia 3–6 cm. longa, lacinis oblongis v. lanceolatis v. angustis.

Nom. Jap. Jomogi.

In plano Nippon, Shikoku et Kiusiu nec non insulae Tsushima vulgaris.

forma **montana** Nakai. Folia usque 15 cm. longa. Planta elata et robusta.

Nom Jap Ojomogi v Numa-jomogi.

In montibus Nippon media vulgaris.

var. **Maximowiczii** Nakai.

A. vulgaris v. *parviflora* (non Bess.) Maxim. Prim. Fl. Amur. p. 160. Fran. et Sav. Enum. Pl. Jap. I. p. 252. II. p. 404. in clave.

Planta erecta 1–3 pedalis. Caulis superior incanus. Folia subtus incana, ambitu ovata, inciso-pinnatifida, lacinis angustis 2–6 mm. latis. Capitula parva 1.5–2 mm. lata.

in Nippon in plano cum Jomogi mixte crescit.

var. **kamtschatica** Bess. Tent. Abr. 54. DC. Prodr. VI. p. 113. Fr. Schmidt Fl. Sachal. p. 149.

A. vulgaris v. *communis* Koidz. in Journ. Coll. Sci. XXVII. art. 13. p. 120 p. p.

Planta erecta robusta. Caulis superior incana. Folia subtus incana, ambitu late-ovata, bipinnatifida, lacinis angustis. Capitula 2–2.5 mm. lata.

Habitat in Sachalin, Jeso et in Kuril.

var. **nipponica** Nakai. (varietas proxima ad varietatem mongolicam). Planta flexuosa, superior incana v. demum glabrescens. Folia subtus nivea, pinnatim v. subbipinnatim secta, lacinis angustis acuminatis 5–8 mm. latis.

In silvis Nippon mediæ crescit.

Sect. III. **Absinthium** DC. Fl. Fran. IV. p. 189. et Prodr. VI. p. 120. Ledeb. Fl. Ross. II. p. 594.

Receptaculum pilosum. Capitula heterogama. Flores radii feminæi, disci hermaphroditi.

1. Folia sericea v. argenteo-sericea ..... 2.
   Folia nunquam sericea ..... 3.

2. Folia omnia petiolata argenteo-sericea, bipinnata, lacinis angustis 1 mm. latis ..... *Art. Schmidtiana* MAXIM. アサギリサウ
   Folia vulgo subsessilia v. sessilia, sericea, lacinis linearibus 1 mm. latis ..... *Art. sericea* WEB.

3. Caulis 1–2 pedalis robustus. Folia glabrescentia v. glaberrima tripinnata, lacinis angustis 1 mm. latis. Racemus subpaniculatus. ..... *Art. sinanensis* YABE. タカ子ヨモギ
   Caulis 0.7–1 pedalis. Folia sericeo-pubescentia. v. glabrescentia, tripinnatifida, lacinis lanceolatis 1.5–2 mm. latis. Racemus simplex. ..... *Art. norvegica* FRIES. チシマモギ

(Continuatio sequitur).

On some interesting plants from the island of Formosa.

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In connection with the Governmental Botanical Survey in Formosa, I made, from January to February, a short trip to the island. The excursion was carried on to the Arisan-range where we stayed for twenty days from the basal regions up to the top of the mountains. As botanical trips in these regions were usually made in other seasons of the year, our collections in this time were of very successful ones; and it will take much time to work them up thoroughly. In this paper, I shall try to give a few accounts about the most interesting plants of my materials, which attracted my attention very much.

First of all, the most remarkable one is *Drymotænium Nakaii* Hay.—a peculiar fern to this region of the island. The plant is not very rare in these mountains; but it has remained until now practically unnoticed by several collectors who were sent to these places in different seasons of the year. The plant has a quite similar appearance as *Vittaria elongata*, so as to be taken for the same plant when seen upward from some distance below. As *Drymotænium* is usually found hunging on branches or on a trunk of various *Querci* or some other trees of a considerable height, as in the case of *Vittaria*, it is practically impossible to distinguish them from a distance, though the difference is very clear in close examination. The fronds of *Drymotænium* are fleshy, subterete, dark-green, beautifully shining above, pale whitish beneath, and less curving or sometimes

hunging straight, while those of *Vittaria* are quite flat, dull-greenish above, pale-yellowish beneath, and hang droopingly. Besides, the structure of their sori is so widely different, that it needs hardly pointing out. The two, very similar in appearance, but widely different in character, exist nearly side by side in this region on an altitude of nearly 7.000 ft. *D. Nakaii* closely resembles the Japanese *D. Miyoshianum* in having linear sori between the costa and the margins, flattened costa, slightly inflexed margins, very long linear fronds and comparatively short stipes. But it differs principally from the other by the soriferous furrows which are slightly widened inside, so as to make an urceolate pore in transversal section; the much more flattened costas on the lower surface of the fronds, which costas are very slightly furrowed on the middle, so as to form divaricate arms in transversal section; the much more recurved margins; and the narrower furrows on the upper surface of the fronds; and in not having peculiar and remarkable thickening of epidermal tissue on the costas of the upper surface. The margins of the Formosan fern are, in section, like drooping arms, while there of the other are more divaricate, in section, spreading nearly horizontally. The soriferous furrows of the latter are, in section, campanulate, but not urceolate; the costa on the upper surface has a peculiar and remarkable thickening in the epidermal tissue. What is more interesting to notice, the new one is nearer to *Vittaria*, to which the present genus has a close affinity, than the other. The present fern has no peltate paraphysis and the soriferous furrows are much wider,— characters which would have united *Drymotænium* and *Vittaria* into one genus, but for the articulated stipes which make the amalgamation impossible. The following description is drawn from the best example of the species collected by myself in the forests of Mts. Arisan.

Drymotænium Nakaii HAYATA, Sur une espèce nouvelle de Fougère de genre *Drymotænium* de Formose, Bull. Société. Bot. Franc. (1911) pp. 563–566. Pl. XIX. Rhizoma ut videtur supra truncos repens, teres, gracile, 1 mm. in diametro sectionis, subtus radices nigras filiformes numerosissimas ramosas emittens, supra

et a latere squamis imbricatis densissime obtectum; squamis ovatis lanceolatis plerumque apice longe cuspidatis, acuminatisque, basi leviter vel profunde cordatis 1–2 mm. longis, ½–1 mm. latis, fusco-nigricantibus, sub microscopio minute fusco-reticulatis reticulis rhomboideis margine sub microscopio minute spinulosis. Stipites brevissimi, ½–1 cm. longi nudi, subteretes, plus minus complanati, 1½ mm. lati, depresso-rotundato-rhomboidei in sectione, fasciculis vascularibus a centro 2. Frondes lineares crassæ, semiteretes vel plus minus complanatæ, utrinque attenuatæ, utraque pagine glabræ 40–50 cm. longæ, 3–4 mm. latæ, supra nitidæ viridissimæ, infra albo-pallidæ, a supra medium sursum usque ad prope infra apicem soriferæ, supra profunde sulcatæ, margine rotundato-obtusæ, subtus late costatæ, costis prominentibus 1½–2 mm. latis, in utroque costæ latere late sulcatæ, sulcis latis obtusis, supra medium sursum usque ad vicinum apicis soriferis; partibus inferioribus non-soriferis, in sectione depresso-rhomboideis, in latere superiore emarginatis, 2½ mm. latis, fasciculo vasculari ad centrum solitario; inter fasciculos centrales et margines unus minor fasciculus positus; partibus frondis mediis non-soriferis, in sectione 3½ mm. latis, centro fasciculo vasculari solitario; inter hunc et margines fasciculis minoribus, 4–5 disperse positis; partibus superioribus soriferis in sectiore depresse T—formibus 4 mm. latis, 2 mm. altis, latere superiore late emarginatis, brachiis utrinque descendentibus, columna basi dilatata, truncata plus minus leviter emarginata, poris inter brachia et columnam urceolatis, in ore plus minus contractis fundo soriferis, ¾ mm. profundis, in ore ⅓ mm. latis; fasciculis vascularibus in centro costæ prope sinum centralem solitariis etiamque in centro utriusque brachii 1; receptaculum a basi furcis lineare ⅓ mm. latum. Sporangia cum paraphysibus intra sulcos dense fasciculata, exserta vel inclusa, obovata vel orbicularia, ¼ mm. longa annulo incompleto, unilaterali, longe stipitata, stipte lineari. Paraphyses lineares in speciminibus nostris non peltatæ. Sporæ semiellipsoideæ, facie tenuissime costatæ, dorso rotundatæ, minute tuberculatæ.

Hab. Formosa: Montibus Arisan, leg. B. Hayata et S. Sasaki; Jan. 24, 1912. Marginal veins are usually solitary

in the soriferous portions of the fronds; but they are found scattered in numbers in the middle portion of the fronds, where they shows some reticulations.

Another plant which I may here mention is a new species of *Peranema* which I would propose to call *P. formosana*. It was first collected by myself in this trip to the Arisan. The fern was found abundantly in shady places along a valley near the station in the same mountains. When I was walking along the rivulet collecting plants here and there, my attention was called by a fern of no peculiar appearance which was as tall as *Pteris quadripinnata*, or *Diplazium Döderleinii*, with a deltoid frond 1 m. long, and a stipe of nearly equal length, clustered by three or four on the apex of a under-ground, asscending, stout rhizome of nearly 20 cm. in length. In turning over the frond and looking attentively on the under surface, I was at once struck with the singular shape of a sorus—a black globule on a stalk—which might be taken for a sporangium of a Myxomycete. An examination with a hand-lens revealed me clearly that it was a sorus with an inferior involucre, supported on a stalk, once or twice as long as itself. The fern should undoubtedly be referred to *Peranema*[1] on account of the characters just mentioned. The species belonging to this genus at present known to us are two in all; one is *P. cyatheoides*,[2] a native of the Himalayas which extends to east as far as Western China; the other is *P. luzonica*,[3] an indigene to the Island of Luzone, which is different from the Himalayan plant by the hirsute fronds. The new fern closely resembles the two just mentioned, but differs from the former by the hirsute pinnules, and from the latter in having acuminate pinnules with truncated lobes. The following description is drawn up from an example, which I think the best, in my collections.

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1) Peranema Don; Diels, in N. Pfl. I.–4, p. 159.

2) Peranema cyatheoides D. Don; Christ, Farnkräuter der Erde, p. 286. =*Sphæropteris barbata* Wall.; Hook. Sp. Fil. I. p. 54.; Hook. et Baker Syn. Fil. p. 49.

3) Peranema luzonica Copel. in Philip. Journ. Sci. (1909) p. 111.

Peranema formosana Hayata, sp. nov. Rhizoma ascendens, breve, oblongum, 20 cm. longum, 1 cm. latum, cum reliquis stipitum dense obtectum, radices fibrillosas numerosas nigricantes emittens, reliquis stipitum cylindrico-complanatis ascendento-adnatis, basi 1½ cm. latis, cicatricibus squamarum horizontaliter recurvis notatis; rhizoma apice dense squamatum, (squamis linearibus vel ovatis, acuminatis 2½ cm. longis). Stipites ad apicem rhizomatum 5–7–cœspitosi, a basi usque ad rachin dense vel sparse squamati, 120 cm. longi, basi 7 mm. in diametro, suberecti, basi stramineo-nigricantes, superiore stramineo-flavi, supra profunde 3–sulcati, dense vel sparse squamati, squamis in magnitudine variabilibus, lanceolatis, semper acuminatis, stramineis. Frondes late rhomboideo-triangulares, 90–95 cm. longæ 80 cm. latæ, apice acutæ, tripinnatæ; pinnæ infimæ 55 cm. longæ, elongato-lineari-triangulares, basi 20 cm. latæ apice acuminatæ a se 15 cm. remotæ, breve stipitatæ, stipitibus 2 cm. longis, rhachibus squamatis; pinnulæ I infimæ brevissime stipitatæ, a se 5 cm. remotæ (stipitibus 4 mm. longis), lineari-triangulares, acuminatæ, circ. 10 cm. longæ, basi 2½ cm. latæ; pinnulæ II infimæ sessiles, oblongo-quadrangulatæ, basi late acutæ, apice truncato-obtusæ, 13 mm. longæ, 6 mm. latæ, a se 7 mm. remotæ, utroque latere 5–6–dentatæ vel lobatæ, (dentibus truncatis vel acutis), apice obscure denticulatæ, utraque pagine sparse hirsutæ, infra venulis distinctis. Sori sub dentibus singulis vel lobis 1, globosi, 1 mm. in diametro vel majores, longe stipitati, stipitibus 1½ mm. longis. Indusia inferiora, supra minute glanduloso-hirtella, pilis globuliferis.

Hab. Arisan. leg. B. Hayata et S. Sasaki, Jan. 1912.

Here is another form which is much smaller than the one just described. It has thinner texture, more divaricate pinnæ. The stipes 20 cm. long, fronds elongato-triangular, 40 cm. 30 cm. broad. It may prove a variety of the species just mentioned, when its habit is fully known.

Another fern which I am going to describe was also first collected by myself in the same mountains. It is a new species

of *Lecanopteris*[1] which comes very near to *Polypodium*. The sori are very peculiar; the receptacles exist at the bottom of holes on the apices of the terminal- or side-lobes of a pinna,—the only character which separates *Lecanopteris* from *Polypodium*. Our plant somewhat resembles *L. carnosa*[2]; but differs in the much narrower fronds and pinnæ and in having ciliated scales on the rhizomes. The fern is not very common in these mountains, nor could I find any more than two stocks. One of them is the example from which I have drawn up the following description.

Lecanopteris formosana Hayata sp. nov. Rhizoma in speciminibus nostris semper breve, verticaliter recurvum, supra cicatricibus stipitum biseriatim notatum, infra radices numerosas emittens, subteres, 2–3 mm. in diametro, squamatum, squamis ovato-lanceolatis, 3 mm. longis, acuminatis, margine et extus ciliatis. Stipites 1–2 cm. longi, superiore anguste alati ad frondem abeuntes, nigricantes. Frondes lineari-angustatæ, 30–40 cm. longæ, 3 cm. latæ, apice acuminatæ, basi gradatim attenuatæ, ad stipites abeuntes, primum breve hirsutæ, demum glabratæ, pilis fuscentibus, costis utrinque elevatis, 1 mm. latis, pinnatifidæ vel fere ad rhachin pinnatæ, lobis vel pinnis angusto-linearibus alternis angulo 45°–50° ad costas egressis, 15–20 mm. longis, medio 2½–3 mm. latis, basi dilatatis 5 mm. latis apice obtusis, (sinubus inter lobos obtusis) utroque latere obscure 1–2–3– dentatis, supra viridibus infra pallidioribus, margine leviter desupra recurvis, supra subglabris, infra squamis minutis vel pilis fulvis sparse dispersis, costis frondum pilis nigris brevibus dense obtectis, costis pinnarum supra impressis vel utraque pagine inconspicuis. Sori ad spicem pinnæ et dentium pinnæ solitariter dispositi, cupuliformes profunde immersi, 1 mm. lati, totiusque profundi; receptacula ad basin cupularum. Sporangia longe exserta, sporæ viridibus.

Hab. Arisan, leg. B. Hayata et S. Sasaki, Jan. 1912.

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1) Lecanopteris Blume; Diels, in N. Pfl-f. I.—4, p. 326.

2) Lecanopteris carnosa Bl; Diels, in N. Pfl-f. I.—4, p. 326, Fig. 169.

The last I may here mention is a flowering plant which is perhaps by far the most interesting of all the Formosan plants at present known to us. It is a plant belonging to *Mitrastemon*, a genus which was established upon a Japanese plant[1] by Mr. T. MAKINO in 1909, and is regarded by the same author as representing a new family, *Mitrastemonaceæ*.[2] As exhaustive descriptions of the genus and family are to be found in the November-number of this Journal of the last year, I shall not dare to repeat here even as to the diagnoses. So far as I am aware, Mr. MAKINO is quite justified in establishing a special genus representing the named family; for the plant, *M. Yamamotoi* is very peculiar, and widely different from any plant then known to us, and we could not find any other proper family for the said plant. It is a native of Kiūshū, a southern island of Japan, and was found as a parasite on a root of *Quercus cuspidata*. Our Formosan plant exists also as a parasite on a root of a *Quercus*, as its congener does, but of a different species, *Q. glauca*. It was first discovered by Mr. S. SASAKI, on Mt. Mutō, in January, 1911, on an altitude of 4100 ft. Then it was also found by Mr. T. KAWAKAMI on the same spot. The new plant which I propose to call *Mitrastemon Kawa Sasakii*, in compliments to the above mentioned gentlemen, resembles very much *M. Yamamotoi;* but differs in the much larger form, and in having cylindrical or vermiformed anther-cells and much more numerous placentæ. The technical description[3] of this new plant is as follows :

Mitrastemon Kawa-Sasakii HAYATA sp. nov. (Fam. *Mitrastemonaceæ*) Planta parasitica ad radices horizontales *Querci glaucæ* THUNB. sita, fusco-nigricans, nitida, (in speciminibus nostris alabastris florium) 5 cm. longa cylindrica, 2 cm. in diametro (cum squamis imbricatis). Receptacula basalia profunde-cupuliformia, crassa, 2 cm. in diametro, 2 cm.–2½ cm. in longitudine, infra ores leviter contracta, basi constricta, nigro-fuscentia, non nitida, extus tuberculata, ore irregulariter dentata,

1) Mitrastemon Yamamotoi MAKINO, in Tōkyō Bot. Mag. XXIII. (1909) p. 326.
2) MAKINO, Obs. Fl. Jap. in Tōkyō Bot. Mag. XXV. p. 252.
3) The description is based upon an alcoholic material.

dentibus 4–5. Caulis cylindricus simplex, squamatus, squamis imbricatis, oppositis, 5-6-seriatim dispositis, glabris, nitidis, ferrugineo-nigricantibus, mediis magnis oblongis basi non contractis, apice obtusis, 27 mm. longis, 18 mm. latis, superioribus et inferioribus plus minus minoribus. Flores ad apicem caulis solitarii, a squamis caulium involucrati, apetali. Perianthium crasse membranaceum breve cylindricum apice margine membranaceum, integrum vel irregulariter undulatum basi crassum, a medio sursum nigro-coloratum, a medio deorsum fulvescens, 5 mm. longum, ore 10 mm. in diametro, leviter contracto. Androecium hypogynum calyptriforme (mitriforme), apice minute 1–porosum, glabrum, tubo filamentorum connatorum 6 mm. longo, tubum antherarum in longitudine æquante, tubo antherarum 7 mm. longo, cellulis minutis alveolate in facie tubi transverse dispositis, 1– seriatis in sectione, cylindricis, rectis vel plus minus recurvatis, ½ mm. in diametro; productum connectivorum calyptriforme, 2 mm. longum, basi 4 mm. in diametro, nitidum, nigricans, in centro 1– porosum, poro minuto. Ovarium superius, globosum, cum stylo 12 mm. longum, 9 mm. in diametro, uniloculare, placentis 15–20 crassiusculis lamellatis ad totam faciem ovuliferis, stylo brevi, 2½ mm. longo, 6 mm. in diametro, apice stigmatoso, stigmate breve conico, ad summum emarginato. Fructus ignoti.

Hab. Monte Mutō, leg. T. Kawakami et S. Sasaki, Jan. 1911.

Observations on the Flora of Japan.

(*Continued from p. 82.*)

By

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Prunus serrulata Lindl. in Trans. Hort. Soc. VII. (1830), p. 238; Walp. Repert. II. p. 8.

var. albida Makino. (Fig. IX.)

subvar. a. hortualis Makino.

Prunus pseudo-Cerasus var. γ. serrulata subvar. b. Sieboldi forma albida Makino in Bot. Mag., Tokyo, XXII. (1908), p. 102.

Prunus serrulata a. serrulata forma albida Makino, l. c. XXIII. (1909), p. 74.

Tree; branchlets terete, glabrous, rufescent-castaneous, thinly dispersed with small punctiform lenticels; young one glabrous. Young leaves in flowering time tufted, protected with perulæ at the base, long-petiolate, obovato-elliptical or elliptical, caudato-acuminate, duplicately and simply setaceo-serrulate, shining, viridescent and thinly shaded with purple above, glabrous; veins parallel and prominent beneath; stipule angustato-linear, acuminate, longer than the petiole, simple, loosely glanduloso-ciliated, viridescent. Perulæ (of bud) imbricated, deciduous after flower or in flower; the exterior ones badio-brick-coloured, thinly crustaceous, rounded at the apex, the lower ones smallest and semiorbicular, the upper ones gradually larger and rounded to oval, densely puberulent under the apex internally, ciliated on the upper margin in the inner ones; the interior ones larger, erect-patent or spreading, herbaceous, obovato-spathulate, glanduloso-ciliated, pubescent internally, viridescent but albescent at the base, usually tinged with reddish-purple above externally, 8–18 mm. long, 6–10 mm. broad, the inner ones often

Fig. IX. *nat. size.*

shallowly or deeply 3–fid at the apex; those of leaf-bud similar to those of the flower-bud, but the inner ones usually larger and often 3–parted or deeply 3–fid. Inflorescence protected with perulæ at the base, umbellately about 3–4–flowered; common peduncle very short, glabrous, viridescent, about 3–4 mm. long; pedicels fasciculate, erect or erect-patent, terete, rather stout, glabrous or pubescent, viridescent but often shaded with purple above, about 13–22 mm. long; bracts herbaceous, viridescent and often thinly shaded with purple, sessile, 4–5, unequal in size and larger and broader in the outer ones, cuneato-obovate, rounded or truncate at the apex, glanduloso-denticulato-ciliated, glabrous externally, very thinly pubescent internally, anastomotic-veined above, deciduous, attaining 14 mm. long, 10 mm. wide. Flowers coetaneous or subprecocious, about 3½ cm. across, compact, white but lately purpurascent in the bottom of the corolla, inodorous. Calyx glabrous, viridescent and usually tinged with purpurascent hue, deciduous; tube straight, oblong-tubular, somewhat enlarged above, 6–8 mm. long, 4–4½ mm. across in the upper broader part, glabrous, obscurely veined longitudinally, acutely continued to the pedicel at the base, smooth but rugulose above on the surface, viridescent and nectariferous below internally; lobes 5, with obtuse sinuses between lobes, nearly equal to or very slightly shorter than the tube, ovato-lanceolate, acuminate, incumbently glanduloso-ciliated with several to subnumerous setæ on each margin, 3–nerved, 7–8 mm. long, 3½–4 mm. broad. Petals 5, sub-erect-patently patent, oval-elliptical, sessile and obtuse at the base, emarginate with rounded or obtuso-rounded and entire or suberoso-crenate lobes, and often with a small produced tip in the bottom of the open or subclose sinus, loosely subcrispate towards the margin and uneven on face, glabrous, 17–19 mm. long, 12–14 mm. broad. Stamens numerous, short, erect, inserted on the throat and the upper portion of the calyx-tube internally, unequal in length, attaining about 6½ mm. in length; filament subulato-filiform, glabrous, white but lately purpurascent at the base; anther small, rounded, yellow, emarginate at the apex, bifid at the base, introrse,

with oblong anther-cells. Style 1, erect, nearly equal to the stamens in height, about 11–12 mm. long, slenderly terete, glabrous, viridescent, with a fine ventral line on one side; stigma small, dilated, elliptical-orbicular, concave in centre, viridescent, about 1½ mm. across; ovary 1, sessile, oval-ovoid or ovoid-ellipsoid, erect, glabrous, green, with a sutural line on one side, 1½–2 mm. long, 1½ mm. across, 2-ovuled.

Nom. Jap. *Shiro-satozakura* (nov.).

Hab. Prov. MUSASHI: Tokyo, cultivated (*T. Makino* !).

This is distinguished by the broad perulæ, broad bracts, very short common peduncle, short pedicels, compact and white simple flower, and not fully patent corolla. It is uncommon in gardens.

subvar. b. speciosa (Koidz.) Makino. (Fig. X.)

Prunus jamasakura β. *speciosa* Koidz. in Bot. Mag., Tokyo, XXV. (1911), p. 186.

Tree, attaining about 14 m. or more in height; trunk erect, attaining about 27 cm. or more in diameter; main branches erect-patent, cinereo-castaneous, transverse-verrucous with old large cross lenticels; branches cinereo-castaneous, terete, thinly verrucous with old lenticels; branchlets terete, glabrous, rufescent-castaneous, thinly dispersed with punctiform lenticels; young branchlet viridescent or purpurascent, terete, smooth, often slightly flexuous, glabrous. Leaves alternate, petiolate, obovato-elliptical, oval-elliptical, or obovato-oval, abruptly caudato-acuminate at the apex, rounded or subtruncato-rounded at the base, and with 1–3 minute discoidal sessile glands on margin near the petiole, duplicately and simply setaceo-serrate, chartaceo-membranaceous, glabrous, green above, paler beneath, 4–14 cm. long, 2–7½ cm. broad; midrib impressed above and prominent beneath as well as the veins; veins 8–11 on each side, erect-patent, more or less arcuate above; main-veinlets transversed between the veins; minute-veinlets finely anastomosing; petiole long, slender, glabrous, viridescent and often tinged with purple, with 1–3 minute discoidal sessile glands in the apical portion, 2–3¼ cm. long; young leaves (in the flowering time) scarcely viscid, shining, green, but usually very thinly

FIG. X. *nat. size.*

or deeply shaded with purpurascent tint, tufted and protected by the perulæ at the base of the leaf-tuft, quitely glabrous, with a slender glabrous petiole and very angustate long stipules; blade at first conduplicate, obovato-elliptical, abruptly caudato-acuminate, setaceo-serrate, shining; midrib and veins prominent beneath; petiole with 2–4 minute discoidal purple glands in the apical portion, canaliculated in front, viridescent and often purpurascent, attaining about 3 cm. long; stipules mainly few-laciniate into augustato-linear divisions, ciliato-fimbriate with spreading and unequal glandular (gland purpurascent) teeth, viridescent or thinly shaded with purpurascent hue, deciduous, attaining about $3\frac{1}{4}$ cm. long. Perulæ (of flower-bud) deciduous when flower or lately after flowering, imbricated; the exterior ones small and squamiform, gradually larger above, crustaceous, smooth, badio-brown, rounded at the apex, glabrous but densely puberulent with rufous hairs under the apex internally, the lower ones smallest and semiorbiculate, the middle ones broadly ovato-orbicular, the upper ones oval-orbicular, ciliated; the interior ones much larger and herbaceous, radiately spreading or recurvo-spreading, viridescent, pubescent internally, glabrous and often shaded with purpurascent or reddish-purpurascent hue dorsally or on both surfaces, ciliato-denticulated with glandular erect-patent or patent teeth, the lower ones oval-elliptical to obovato-elliptical, rounded at the apex, the upper largest, obovato-spathulate

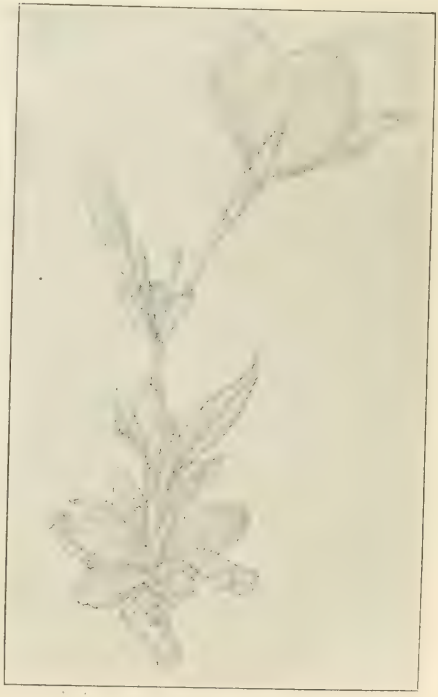


Fig. XI. *nat. size.*

or oblong-spathulate or cuneate, usually 3–fid at the apex, the largest one attaining about 24 mm. long, 12 mm. wide, sometimes situated in the lower portion and often developed into small leaves with petiole and stipules (Fig. XI.); those of leaf-bud similar to those of the flower-bud, but the interior ones often larger, broader and attaining about 30 mm. long, 18 mm. wide in the largest one, deciduous. Inflorescence 3–9-flowered, protected by perulæ at the base; common peduncle short or elongated, straight, subcompresso-terete, glabrous and viridescent as are the pedicels, $\frac{1}{4}$–5 cm. long; rachis attaining about $3\frac{1}{3}$ cm. long; pedicels 3–9, corymboso-umbellately or subcorymboso-racemosely or umbellately disposed, erect-patent, straight, rather stout or slender, terete, smooth, often thinly shaded with purpurascent hue above, $1\frac{2}{3}$–$4\frac{1}{2}$ cm. long; bracts about 4–10, sessile, obovate, obovato-spathulate, or lato-obovate, but oblong-lanceolate or obovato-cuneate with an acute or acutish or obtuse apex in the inner ones, obtuse or rounded-obtuse or subtruncato-rounded or truncate at the apex, cuneate or subcuneate at the base, ciliato-denticulate with glandular teeth on margin, erect-patent or subspreading, unequal in size, thin, herbaceous, glabrous but usually very thinly pubescent on the upper surface, viridescent but often thinly shaded with purpurascent tint dorsally, with anastomotic veinlets above, 7–15 mm. long, 3–12 mm. broad; the outer one sometimes sub-trifid or rarely sub-laciniate; sometimes in well developed ones provided with bracteoles within the bract at the very base of pedicels, the bracteoles opposite or solitary, smaller than bracts, spathulato-oblanceolate or linear, others as the bract. Flowers coetaneous with young leaves, often rather large, about 3–$4\frac{1}{2}$ cm. across, white or with a very thin shade of rose, but at first dilute-rosy towards the upper margin of petals, and lately purpurascent in the bottom of the corolla, odoriferous; alabastra oblong-conical, protected by calyx-lobes which are close to it. Calyx glabrous, herbaceous, light green but shaded with purpurascent tint, about $1\frac{3}{4}$–$2\frac{1}{5}$ cm. across; tube straight, tubular, somewhat enlarged above, shorter than lobes, more or less nervato-striate longitudinally, shining, rugulose on surface to-

wards the top, green and nectariferous except the apical portion internally, about 5–7 mm. long, 3½–4 mm. across in the apical broader part; lobes 5, with obtuse sinuses between lobes, patent, sometimes then reflexed, ovato-lanceolate, oblong-lanceolate or lanceolate, shortly or abruptly or attenuately acuminate, subincumbent-ciliato-serrulate with several to many teeth on each side, thin, with 3 main nerves, shining dorsally, 7–11 mm. long, 2½–4 mm. wide. Petals 5, patent or erect-patently patent, elliptical, oval-elliptical, or oblong-elliptical, entire and slightly loosely crispate towards margin, shortly broad-cuneate with an about right or acutish angle and sessile at the base, emarginate with rounded lobes and sometimes a minute projecting tip in the bottom of the subclose or open sinus at the apex, membranaceous, glabrous, deciduous, 18–23 mm. long, 11–16 mm. broad. Stamens rather short, numerous, erect, inserted on the throat and the inner side of the apical portion of the calyx-tube, glabrous, the outer longest ones about 9 mm. long; filament subulato-filiform, white then rosy-purpurascent below; anther minute, rounded, bifid at the base, introrse, yellow, 1 mm. long and across, with oblong anther-cells and yellow pollen. Style 1, erect, equal to or lower than or slightly exserted upon the stamens in height, narrowly terete, with a fine sutural line on one side throughout, glabrous, viridescent, about 10–12 mm. long; stigma small, dilated, depressed-orbicular, concave in centre, subnotched on one side, green; ovary sessile, ovoid-elliptical, with a sutural line on the ventral side, glabrous, smooth, green, 2-ovuled, about 2–2½ mm. long, 1⅔ mm. across. Drupe globular, but in young stage oval-ellipsoid and shortly mucronate at the apex, about 1–1¼ cm. across, dark-purple, succulent, smooth, 1–4 to a common peduncle; pedicel strict, glabrous, erect-patent, dilatato-enlarged at the apex, 2½–3½ cm. long; putamen oval, acutish at the apex, rounded at the base, slightly compressed, smooth on face, 8 mm. long; embryo oval-ellipsoid, mucronate, somewhat compressed; common peduncle straight, glabrous, 1–3¼ cm. long, very rarely with one or two small petiolate leaves below.

Nom. Jap. *Ôshima-zakura.*

Hab. Prov. MUSASHI: Yokohama, cultivated from Isl. Ôshima, one of the Seven Islands of the province of Idzu (*T. Makino* ! 1911, fruit, 1912, flower).

This is commonly planted in Isl. Ôshima, and its wood is used for fuel in the island. It differs from *subvar. a. hortualis* Makino by having the longer common peduncle, longer pedicels, larger flower, and more patent and often purple-shaded petals, etc.

Trachelospermum jasminoides Lem. Jard. Fleur. I. tab. 61; Van Houtte, Fl. des Serres, VI. p. 263, tab. 615.

Rhynchospermum jasminoides Lindl.; Bot Mag. tab. 4737; Franch. et Sav. Enum. Pl. Jap. I. p. 315.

Nerium divaricatum Thunb. Fl. Jap. p. 100, non Linn.

Trachelospermum divaricatum Kanitz, Anthoph. Jap. (1878), p. 14; K. Sch. in Engl. et Prantl, Nat. Pfl.-Fam. IV. 2, p. 167, fig. 58 I–L.

Malouetia asiatica Sieb. et Zucc. in Abh. Akad. Muench. IV. 3, p. 163.

Parechites Thunbergii A. Gray, Bot. Jap. p. 403; Miq. Prol. Fl. Jap. p. 63.

Leaves entirely glabrous.

Nom. Jap. *Teika-kadzura.*

Hab. Japan.

var. pubescens Makino, nov.

Leaves pubescent towards the midrib beneath. Otherwise as in the type.

Nom. Jap. *Ke-teikakadzura* (nov.).

Hab. Prov. HARIMA: Akashi (*T. Makino* !).

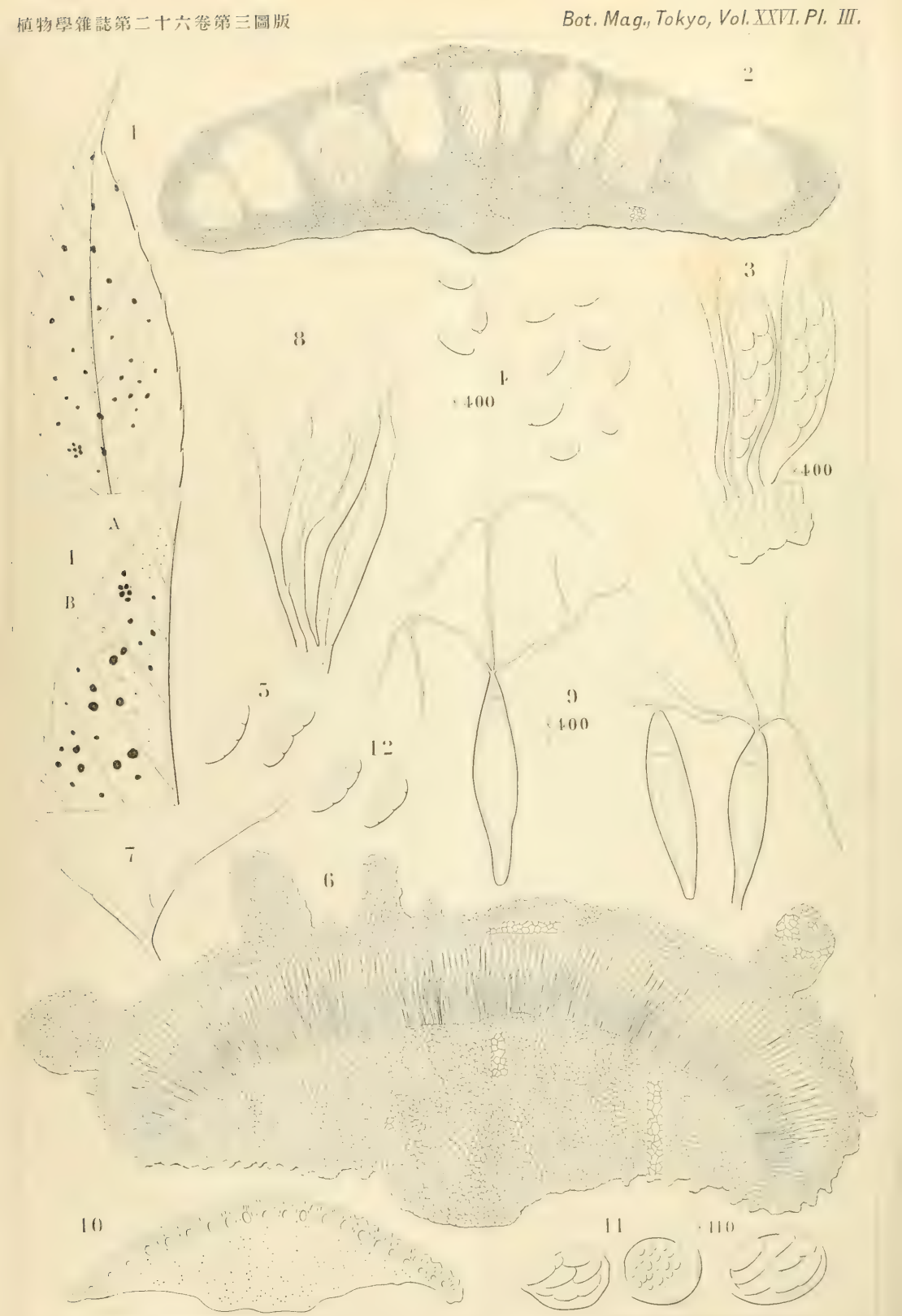
Potamogeton teganumensis Makino, nom. nov.

Potamogaton lucens var. teganumensis Makino in Bot. Mag., Tokyo, XIX. (1905), p. 142.

Nom. Jap. *Gasha-moku, Chakkara-moku.*

Hab. Prov. SHIMOOSA: Lake Teganuma (*K. Yamadsuta* !; *H. Nakano* !; *T. Makino* !).

(*To be continued.*)



K. Hara del. Coccoidea and Yoshinagamyces. F. Fujisawa sculp.

EXPLANATION OF PLATE III.

Fig. 1—4. *Coccoidea quercicola.*

1. Leaves of *Quercus myrsinaefolia* with stroma of *Coccoidea quercicola.*

2. Longitudinal section of stroma.

3. Paraphyses and ascus with spore.

4. Spore.

Fig. 5—9. *Yoshinagamyces Quercus.*

5. Leaves of *Quercus glauca* with stroma. of *Yoshinagamyces Quercus.*

6. Longitudinal section of stroma.

7—8. Conidiophore with spore.

9. Spore.

Fig. 10—12. *Kusanoa japonica.*

10. Longitudinal section of stroma.

11. Ascus with spore.

12. Spore.

圖解

一—四圖 *Coccoidea quercicola*

一、しらかしノ葉上ニ子座ヲ生ジタル狀(自然大)

二、子座ヲ縱斷シテ子嚢殼ヲ示ス　百十倍

三、子嚢及ビ絲狀體ヲ示ス　四百倍

四、胞子ヲ示ス　四百倍

五—九圖 *Yoshinaganyces quercus*

五、あらかしノ葉上ニ子座ヲ生ジタル狀ヲ示ス　トアルハ　ノ誤　Aハ子座ノ最期Bハ子座飛散シテ穴トナル

六、子座ヲ縱斷シテ胞子室ヲ示ス　百十倍

七—八、擔子梗上ニアル胞子ヲ示ス(七ハ若キモノ)　三百六十倍

九、胞子ヲ示ス　四百倍

一〇—一二圖 *Kusanoa japonica* (*Coccoidea* ニ寄生ス記載ハ次號)

一〇、子座ノ縱斷面ヲ示ス(廓大)

一一、子嚢ニ胞子ヲ含ム　(廓大)

一二、胞子ヲ示ス五ノ番號ヲ除クベシ(廓大)

A List of Plants collected in Soo-chow, China, by Prof. J. Matsumura and K. Ono.

by

S. Matsuda.

Mr. K. Ono, now a professor in the University of Pekin, collected plants in Soo-chow and its vicinity, while he was staying there. Afterwards, in 1908, he accompanied Prof. J. Matsumura in his short trip to that region, and a collection of plants was made by them. The plants thus collected were freely put in my hand, and the present list is the result of the examination of them. A few names of the plants in the list are new to the Flora of China, so far as I know; and also I was obliged to propose a new name for a species of *Mosla* which I have been unable to identify with any of the species described. These names are *Swertia tosaensis* Makino, *Veronica polita* Fries, *Hygrophila lancea Miq.*, *Mosla soochouensis* n. s., *Luzula campestris* DC., *var. intermedia* Koidz. and *Panicum Matsumurae* Hack.

Here I express my sincere thanks to Prof. J. Matsumura and K. Ono through whose kindness the materials for my study were obtained. Again thanks to Prof. J. Matsumura and others who helped me while I was examining these materials.

S. Matsuda.

In Bot. Inst. Sci. Coll. Imp. Univ. Tokyo.

Jan. 1912.

Dicotyledones.

A. Polypetalæ.

Clematis grata Wall.; Hook. f. Fl. Brit. Ind. I. 3; Max. in Mél. Biol. IX. 592; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 3; Diels in Engl. Bot. Jahrb. XXIX. 333; =*Cl. vitalba* L. II. subsp. ε. grata Wall., Kuntze, Monogr. 100. 天平山

The present specimen seems to be a variety of the species.

C. uncinata Champ; Benth. Fl. Hongk. 16; Max. Mél. Biol. IX. 597; Bot. Mag. Tokyo XX. 102; =C. recta L. III. subsp. ξ. chinensis Retz. var. uncinata Champ., Kuntze, Monogr. 115. 天平山

Delphinium anthriscifolium Hance; Bot. Mag. Tokyo l. c. 上方山

Ranunculus acris L.; Tokyo Bot. Mag. l. c. 103. 上方山

Akebia quinata Dene.; Bot. Mag. Tokyo. l. c. 104; 上方山

Capsella Bursa-pastoris Moench.; Bot. Mag. Tokyo l. c. 105. 上方山

Cardamine lyrata Bge.; Bot. Mag. Tokyo. l. c. 上方山

C. sylvatica Link.; Max. in Mel. Biol. IX. 6; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 43; =*C. hirsuta* L. in Bot. Mag. Tokyo l. c. 上方山

Moricandia sonchifolia Hook. f.; Bot. Mag. Tokyo. l. c. =*Orychophragmus sonchifolius* Bge., Enum. Pl. Chin. Bor. 7. 靈巖山

It grows wild in abundance, and young leaves are said to be eaten.

Nasturtium globosum Turcz.; Hance in Journ. Linn. Soc. XIII. 76; Franch. Pl. David. 31; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 39; =*N. austriacum* in Bot. Mag. Tokyo l. c., non Crantz. 上方山

Seed under magnification presents reticulation. In the present sp. stigma is much shorter than the globose fruit, but it is subequal in *N. austriacum* Crantz.

Nasturtium sikokianum Fr. et Sav.; Bot. Mag. Tokyo l. c. 獅子山

This is a species very closely allied to *N. microspermum DC.*

Viola Patrinii DC ; Benth. Fl. Hongk. 20 ; Max. Mél. Biol. IX. 721. Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 53 ; Diels in Engl. Bot. Jahrb. XXIX. 476. 上方山

Polygala sibirica L. ; Bot. Mag. Tokyo XX. 1806. 上方山

Arenaria leptoclados Guss. ; Williams in Journ. Linn. Soc. XXXIII. 367. 蘇州

A. serpyllifola L. differs from the present species by having the sepals with 3 prominent nerves. Nerves are not distinct in *A. leptoclados* Guss.

Dianthus chinensis L. ; Rohrb. in Linnaea XXXVI. 670 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 63 ; var. *β.* **silvaticus** Koch, subvar. **brachylepis** *Rohrb.* l. c. ?

Dianthus superbus L. ; DC. Prodr. I. 365 ; Hance in Journ. Bot. 1883, 296 ; Frob. et Hemsl. in Journ. Linn. Soc. XXIII. 46. 蘇州

Silene aprica Turcz. var. *α.* typica Rohrb. lusus 2 Rohrb. ? ; Bot. Mag. Tokyo. l. c. 107. 獅子山

S. Fortunei Vis. ; Rohrb. in Linnaea XXXVI. 688 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 65 ; Matsum. et Hayata, Enum. Pl. Formos. 35. 上方山, 天平山, 靈巖山

Stellaria media L. ; Benth. Fl. Hongk. 21 ; Max. Mél. Biol. IX. 42 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 68. 上方山

Styles 3, seed flattened, orbiculor, echinate. It is said this species is naturalized in China from Europe.

Portulaca oleracea L. ; DC. Prodr. III. 353 ; Benth. Fl. Hongk. 127 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 71. 蘇州

Grewia parviflora Bge. ; Walp. Rep. 1. 360 ; Franch. Pl. David. 59 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 93 ; Diels in Engl. Bot. Jahrb. XXIX. 468. 天平山

Oxalis corniculata L. ; Gray, Synop. Fl. N. America I. (1895–1897), 365 ; Diels in Engl. Bot. Jahrb. XXIX. 420 ; Bot. Mag. Tokyo XX. 109. 上方山

O. stricta L. is an allied species, but the two are distinguished :

Fruiting pedicel refracted, longer than capsule, petiole stipulate. . . . . *O. corniculata.*

Fruiting pedicel not refracted, subequal to, or shorter than

the capsule, petiole naked. . . . . *O. stricta.*

Zanthoxylon alatum Roxb.; Hook. f. Fl. Brit. Ind. I. 493; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 105; =*Z. planispinum* Sieb. et Zucc., Fl. Jap. Fam. Nat. 30; Franch. Pl. David. 67. 蘇州

Ilex Oldhami Miq.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 117; =*I. purpurea* Hassk. *α.* Oldhami (Miq.) Loes.; Diels in Engl. Bot. Jahrb. XXIX, 435. 天平山

Euonymus japonica Thunb.; Bot. Mag. Tokyo. XXI. 212. 蘇州

In the present specimen leaves are suborbicular, and some are emarginate.

Microrhamnus franguloides Max.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 127; =*Rhamnella franguloides* Weberbauer; =*Rh. japonica* Miq. in Ann. Mus. Bot. Lugd. Bat. III. 431; =*Berchemia congesta* S. Moore in Journ. Bot. 1875, 226. 天平山

Rhamnus parvifolius Bge.; Max. Rhamneæ orient. asia. 16; Franch. Pl. David. 73; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 129; Diels in Engl. Bot. Jahrb. XXIX. 459. 上方山

Sageretia theezans Brongn.; Bot. Mag. Tokyo XX. 125. 蘇州

Zizyphus vulgaris Lam.; Bot. Mag. Tokyo l. c. 天平山

Vitis heterophylla Thunb. Flora Jap. 103; Benth. Fl. Hongk. 53; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 133; =*Ampelopsis humulifolia* Bge; =*Cissus humulifolia* Regel, Fl. ussur. t. 3. fig. 1. 2, non Bunge; =*Am. heterophylla* Sieb. et Zucc.; Planch. in DC. Monogr. Phanerog. V. 455; Diels in Engl. Bot. Jahrb. XXIX. 465. 蘇州

This species is variable not only in the form of leaves, but also in the degree of pubescence. The present specimen is very pubescent in peduncles, petioles and other parts.

V. inconstans Miq.; Forb, et Hemsl. in Journ. Linn. Soc. XXIII. 133; =*Parthenocissus tricuspida* (S. et Z.) Planch.; Diels in Engler. Bot. Jahrb. XXIX. 464. 蘇州

Acer palmatum Thunb.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 141; Diels in Engl. Bot. Jahrb. XXIX. 448. 上方山

A. Paxii Fr. var, **ningponense** (Hance) Pax in Pflanzenreich Heft 8, p. 10. 天平山

A. tataricum L.; DC. Prodr. I. 593; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 142; Diels in Engl. Bot. Jahrb. XXIX. 148;

var. **Ginnala** Max. Fl. Amur. 67; Mél. Biol. X. 604; Fr. Pl. David. 76. 上方山

Rhus sylvestris Sieb. et Zucc., Fl. Jap. Fam. Nat. 32; Engl. in DC. Monogr. Phanerog. IV. 399; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 147; Diels in Engl. Bot. Jahrb. XXIX. 433; =*Rh. succedanea* in Bot. Mag. Tokyo XX. 126, non Linn. 天平山

Crotalaria sessiliflora L., Bot. Mag. Tokyo XXI. 212. 蘇州

Dulbergia hupeana Hance in Journ. Bot. (1882) 5; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 198. 天平山

Desmodium parvifolium DC. Prodr. II. 334; Baker in Hook. f. Fl. Brit. Ind. II. 174; Benth. Fl. Hongk. 84.; Diels in Engl. Bot. Jahrb. XXIX. 414; =*D. microphyllum* DC. Prodr. II. 237; Matsum. Conspect. Legum. 24. 天平山, 靈巖山.

D. podocarpum DC. Prodr. II. 336; Baker in Hook. f. Fl. Brit. Ind. II. 165; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 174; Diels in Engl. Bot. Jahrb. XXIX. 414. 蘇州

Glycine Soja Sieb. et Zucc; Bot. Mag. Tokyo XXI. 212. 蘇州

Indigofera venulosa Champ.; Walp. Ann. IV. 487; Benth. Fl. Hongk. 77; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 158; =*I. decora* in Bot. Mag. Tokyo XX. 127, non Lindl. 獅子山, 上方山, 靈巖山

The two species are distinguished, thus:

Leaves ovate oblong, conspicuously glaucous on the back. *I. decora* Lindl.

Leaves ovate or suborbicular, not glaucous on the back..... *I. venulosa* Champ.

Lespedeza bicolor Turcz; Forb, et Hemsl. in Journ. Linn. Soc. XXIII. 179; Diels in Engl. Bot. Jahrb. XXIX. 415. 蘇州

L. Buergeri Miq., Forb. et Hemsl. l. c.; Diels l. c. 天平山

L. juncea Pers. var. sericea Miq; Max. in Acta Horti

Petrop. II. 368 (sp. propria); Bot. Mag. Tokyo XX. 127. 上方山, 天平山

L. striata Hook. et Arn.; Bot. Mag. Tokyo XXI. 283.

L. villosa Pers; Bot. Mag. Tokyo XXI. 212. 蘇州

Medicago denticulata Willd.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 153; Diels in Engl. Bot. Jahrb. XXIX. 411; Matsum. in Bot. Mag. Tokyo XVI. 42. 天平山, 上方山

M. lupulina L.; Bot. Mag. Tokyo XX 127. 上方山

M. minina Lamk.; Led. Fl. Ross. I. 520; Diels in Engl. Bot. Jahrb. XXIX. 411; Matsum. l. c. 上方山, 靈巖山

Milletia reticulata Benth., Hance in journ. Linn. Soc. XIII. 161. Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 159; Ito et Matsum. Tent. Fl. Lutch. 136 (*or* 403); Matsum. et Hayata Enum. Pl. Formos. 105. 天平山

Phaseolus sp. 蘇州

Rhynchosia volubilis Lour; Bot. Mag. Tokyo XX. 226. 蘇州

Vicia hirsuta Koch.; Bot. Mag. Tokyo. XX. 127. 上方山

V. sativa L.; Bot. Mag. Tokyo. l. c. 上方山

Agrimonia Eupatoria L.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 246. 蘇州

Potentilla discolor Bge. Enum. Pl. Chin. Bor. 25; Walp. Rep. II. 30; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 241; Diels in Engl. Bot. Jahrb. XXIX. 401. 上方山, 靈巖山

P. Fragarioides L.; Bot. Mag. Tokyo XX. 128. 上方山

P. supina L.; Lehm. Revis. Potent. 193; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 245; Diels in Engl. Bot. Jahrb. XXIX. 403; Luerssen in Bib. Bot. XVI. 389. 上方山

In my specimen mature carpels have distinct protuberance, and it seems to be of var. *paradoxa* Luers.

Rosa microcarpa Lindl.; Forb. et Hemsl. l. c. 251; Diels l. c. 405. 蘇州

Rubus Thunbergii Sieb. et Zucc. Fl. Jap. Fam. Nat. no. 46; Max. in Mél. Biol. VIII. 389; Forb. et Hemsl. l. c. 238. 上方山

Sanguisorba officinalis L.; Bot. Mag. Tokyo XX. 226. 天平山, 鎮江

Saxifraga sarmentosa L.; Forb. et Hemsl. l. c. 268; Diels

l. c. 364. 蘇州

Cotyledon japonica Max.; Bot. Mag. Tokyo l. c. 227. 蘇州

Sedum japonicum Sieb. ; Bot. Mag. Tokyo l. c. 130. 上方山

Drosera peltata Sm. var. lunata Clarke ; Bot. Mag. Tokyo l. c. 靈巖山

Clarke distinguishes var. *lunata* from var. *typica*, thus:

Rosulate leaves persistent, sepals very fimbriate. . . . var. *typica.*

Rosulate leaves early deciduous, sepals erose or but slightly fimbriate. . . . . var. *lunata.*

Liquidamber formosana Hance ; Bot. Mag. Tokyo l. c. 天平山

Ammania auriculata Willd. ; DC. Prodr. III. 80 ; Koehne in Engl. Bot. Jahrb. I. 244 et IV. 389 ; Pritzel in Engl. Bot. Jahrb. XXIX. 483 ; Koehne in Engl. Pfl.Reich, Lythraceae 45. 蘇州

Hemsley in Journ. Linn. Soc. Bot. XXIII. 304 cites *A. senegalensis* Lam. with synonym *A. auriculata* Willd., and states: "We have followed Clarke in the synonymy of this species, as we have not critically examined the materials." However, after Koehne in Pfl. Reich l. c. these two species are distinct, *A. auriculata* having the style longer than the ovary, while it is almost wanting in *A. senegalensis.* It is not certain true *A. senegalensis* is found in China or not.

Ludwigia prostrata Roxb. ; Forb. et Hemsl. l. c. 309 ; Diels l. c. 484. 上方山

Actimostemma racemosum Max. ; Cogn. in DC. Monogr. III. 922 ; Forb. et Hemsl. l. c. 320. 蘇州

B. Gamopetalae.

Lonicera japonica Thunb. ; Bot. Mag. Tokyo. XX. 17. 蘇州

Imperfect specimen, determination unsatisfactory.

Galium aparine L. ; Bot. Mag. Tokyo l. c. 上方山

G. gracile Bge. Enum. Pl. Chin. Bor. 35 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 394 ; Diels in Engl. Bot. Jahrb. XXIX. 583 ;

forma **hispidum.** 上方山

According to Bunge his plant is very smooth, but the present specimen is hispid.

Serissa Democritea Baill.; Bot. Mag. Tokyo XXI. 213. 天平山

Patrinia scabiosaefolia Fisch. ; DC. Prodr. IV. 624 ; Ledeb. Fl. Ross. II. 427 ; Fr. et Sav. Enum. Pl. Jap. I. 206 ; Forb. et Hemsl. l. c. 397 ; Diels l. c. 597. 天平山

Artemisia capillaris Thunb. ; Bot. Mag. Tokyo XX. 134. 蘇州

A. japonica Thunb. ; DC. Prodr. VI. 100 ; Benth. Fl. Hongk. 186 ; Forb. et Hemsl. l. c. 443 ; Diels l. c. 517. 蘇州

Aster fastigiatum Fisch. ; Bot. Mag. Tokyo XX. 227. 蘇州

A. indicus L. ; = *Asteromaea indica* Bl. ; Bot. Mag. Tokyo l. c. 134. 上方山

A. trinervius Roxb. ; Benth. Fl. Hongk. 174 ; Hook f. Fl. Brit. Ind. III. 252 ; Forb. et Hemsl. l. c. 416 ; Diels l. c. 610. 靈巖山

After Bentham this species is distinguished from an allied one *A. baccharoides* Steetz, thus :

Flower-heads hemispherical, on peduncles as long as or longer than themselves. . . . . *A. trinervius.*

Flower-heads turbinato-campanulate, nearly sessile. . . . *A. baccharoides.*

A. turbinatus S. Moore in Journ. Bot. 1878, 132 ; Forb. et Hemsl. l. c. 417 ; 靈巖山

The peduncle with a number of bractlets gives to this plant an appearance of the species of *Macroclinidium.*

Bidens pilosa L. ; Bot. Mag. Tokyo XX. 134. 蘇州

B. tripartita L. ; DC. Prodr. V. 594 ; Hook. f. Fl. Brit. Ind. III. 309 ; Forb. et Hemsl. l. c. 436 ; Diels l. c. 616. 蘇州

Carpesium abrotanoides L. ; Bot. Mag. Tokyo XX. 227. 蘇州

Chrysanthemum indicum L. ; Bot. Mag. Tokyo l. c. 蘇州

Cnicus chinensis Benth. ; Bot. Mag. Tokyo XXI. 214. 靈巖山

? C. Segetum (Bge.) Max. ; Bot. Mag. Tokyo XX. 134. 蘇州

Specimen imperfect, determination unsatisfactory.

Eclipta alba Hassk. ; Bot. Mag. Tokyo l. c. 上方山

Eupatorium japonicum THUNB. ; DC. Prodr. v. 180 ; Fr. et Sav. Enum. Pl. Jap. I. 219 ; Forb. et Hemsl. l. c. 403 ; Diels l. c. 608. 天平山

E. Lindleyanum DC. Prodr. v. 180. Benth. Fl. Hongk. 172 ; Forb. et Hemsl. l. c. 404 ; Diels l. c. 608. 天平山

Gnaphalium hypoleucum DC. ; Hook. f. Fl. Brit. Ind. III. 288 ; Wight l. c. t. 1114 ; Forb. et Hemsl. l. c. 426 ; Diels l. c. 613. 蘇州

G. japonicum THUNB. Fl. Jap. 311 ; Forb. et Hemsl. l. c. 427. 獅子山, 上方山

G. multiceps Wall. ; Bot. Mag. Tokyo XX. 135. 獅子山

Inula britanica L. ; DC. Prodr. V. 467 ; Fr. et Sav. Enum. Pl. Jap. II. 400 ; Forb. et Hemsl. l. c. 428 ; Diels l. c. 614. 上方山

Diels cites the type and 2 var : var. *japonica*. Fr. et Sav. and var. *linearifolia* [linariaefolia ?] Regel. The type after De Candolle has the back of leaves villose ; and Franchet describes var. Japonica thus : "planta bi-pedalis glabrescens, folia ampla, lanceolata, intense viridia ; rami virgata, elongati 1–3 cephali."—Banks Icon. Kaempf. tab. 30.

Senecio campestris DC. ; Bot. Mag. Tokyo XX. 135. 上方山

Solidago Virgaurea L. ; Bot. Mag. Tokyo XX. 227. 靈巖山

Xanthium strumarium L. ; Benth. Fl. Hongk. 181 ; Forb. et Hemsl. l. c. 433.

Adenophora stricta Miq. ; Bot. Mag. Tokyo XX. 228. 蘇州

A. verticillata Fisch ; Herder, Pl. Radd. IV. Heft 1. p. 28 ; Fr. et Sav. Enum. Pl. Jap. II. 422 ; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 14 ;

?var. **triphylla** Miq. (=var. *subintegrifola* Regel) in *Zotei Somoku Zusetsu* Vol. III. p. 11. 天平山

Lobelia radicans Thunb. ; Bot. Mag. Tokyo l. c. 137. 蘇州

Platycodon Grandiflorus A. DC. ; Forb. et Hemsl. l. c. 5 ; Diels in Engl. Bot. Jahrb. XXIX. 607. 天平山

Rhododendron sinense Sw. ; Bot. Mag. Tokyo l. c. 上方山

Rh. Weyrichi MAXIM. Rhod. As. Orient. 26, t. 2 fig. 1–6 ;

Fr. et Sav. Enum. Pl. Jap. I. 288 ; Forb. et Hemsl. l. c. 32 ;= *Rh. Farrerae* Tate, *a. Weyrichi* Max. 上方山

Stamens 10, upper throat maculated, tegument obscurely mucronate. It is distinguished from allied sp., thus :

Stamens 5. . . . . *Rh. dilatatum* Miq.

Stamens 10, corolla not maculated. . *Rh. rhombicum* Miq.

Stamens 10, the upper throat of corolla maculated :

Leaves twin (always ?) on the tip of the shoot, tegument mucronate. . . . . *Rh. Weyrichi.* Max.

Leaves three on the tip of the shoot, tegument rotund. . . . . *Rh. Farrerae* Tate.

Vaccinum bracteatum Thunb. ; Bot. Mag. Tokyo l. c. 天平山

Lysimachia candida Lindl. ; Bot. Mag. Tokyo l. c. 靈巖山, 上方山

L. Fortunei Max. ; Hance in Journ. Bot. VIII. (1870) 275 ; *Somoku Zusetsu* ed. 2. Vol. III. fol. 64 ; Forb. et Hemsl. l. c. 52 ; Pax et Knuth in Engl. Pfl.Reich Heft 22 (Primulaceae) 290. 蘇州

L. Klattiana Hance ; Bot. Mag. Tokyo l. c. 228. 上方山

Ardisia japonica Bl. ; Bot. Mag. Tokyo l. c. 138. 蘇州

Styrax serrulatus Roxb. ; DC. Prodr. VIII. 267 ; Forb. et Hemsl. l. c. 77 ; Diels l. c. 530 ; Perkins in Engl. Pfl.Reich Heft 30 (Styracaceae) 36. 上方山

Symplocos crataegoides Buch.-Ham. ; Bot. Mag. Tokyo l. c. 138. 上山方

Fontanesia phillyreoides Labill. ; Bot. Mag. Tokyo l. c. 139. 天平山

In this species we often find abnormal friuts produced by the unuusual growth of the ovary with style. Hance described this as "the curious rapidly growing abortive ovary of the sterile form."—Journ. Bot. (1879)136.

Trachelospermum jasminoides Lemaire ; Bot. Mag. Tokyo l. c. 上方山

Gentiana squarrosa Ledeb. Fl. Ross. III. 64 ; Forb. et Hemsl. l. c. 135 ; Diels l. c. 537. 上方山

Swertia (Ophelia) **tosaensis** Makino in Bot. Mag. Tokyo XVII. (1903)54 ;=*S. chinensis* Franch. var. *tosaensis* Makino in

Bot. Mag. Tokyo VI. (1892)53. 靈巖山

This species is new to the Chinese Flora. Its stigma is described as bifid; but this is not clearly noticed in the present specimen.

Bothriospermum Kusunezowii Bge. ?; DC. Prodr. X. 116; Max. in Mél. Biol. VIII. 560; Forb. et Hemsl. l. c. 151; Diels l. c. 546; = *Thyrocarpus Sampsoni* in Bot. Mag. Tokyo l. c. 140, non Hance. 上方山, 獅子山

B. tenellum Fisch, et Mey.; Bot. Mag. Tokyo l. c. 140; = *B. aspergoides* Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 150. 上方山

Lithospermum arvense Linn.; Bot. Mag. Tokyo l. c. 上方山

L. Zollingeri A. DC. Prodr. X. 587; Forb et Hemsl. l. c. 155; Diels l. c. 546. 上方山

Trigonotis peduncularis Benth.; Bot. Mag. Tokyo l. c. 上方山

Lycium chinense Mill.; Bot. Mag. Tokyo l. c. 229. 蘇州

Physalis minima L.; DC. Prodr. XIII. 1. p. 445; Clarke in Hook. f. Fl. Brit. Ind. IV. 238; Forb. et Hemsl. l. c. 174; Leveille in Bull. Soc. Bot. Fr. Tom. 55, 208. 蘇州

Solanum lyratum Thunb.; Bot. Mag. Tokyo l. c. 蘇州

Mazus stachydifolius Max. Mél. Biol. IX. 404; Forb. et Hemsl. l. c. 184; = *M. villosus* Hemsl. in Journ. Bot. (1876)209; = *Vandellia stachydifolia* Walp. Rep. III. 294; DC. Prodr. X. 417. 上方山

Vandellia angustifolia Benth.; DC. Prodr. X. 417; Hook. f. Fl. Brit. Ind. IV. 282; Forb. et Hemsl. l. c. 189; Diels l. c. 567. 上方山

Veronica polita Fries.; Halàcsy, Fl. Graecae II. 435; Thomé, Fl. Deutsch. IV. 173 t. 533 B; = *V. agrestis* in Bot. Mag. Tokyo XX. 141, non Linn. 上方山

V. spuria L.; Ledel. Fl. Ross. III. 231; Forb. et Hemsl. l. c. 200; Diels l. c. 567; = *V. paniculata* L.; Benth. in DC. Prodr. X. 465. 天平山

Utricularia sp. 蘇州

Tecoma grandiflora Loiseleur; DC. Prodr. IX. 223; Forb. et Hemsl. l. c. 235. 蘇州

Trapella sinensis Oliv. in Hook. Ic. Pl. t. 1595; Forb. et

Hemsl. l. c. 236; Diels l. c. 578. 靈巖山

Hygrophila lancea Miq. Prol. 55; Fr. et Sav. Enum. Pl. Jap. I. 355; =*Justicia lancea* Thunb. 蘇州

H. salicifolia Ness. reported from China by several authors is closely allied to the present species, but it has the throat of the corolla barbate, which is not the case with *H. lancea*. If my identification is right, the species is new to the Chinese flora.

Justicia procumbens L.; Bot. Mag. Tokyo XXI. 215. 蘇州

Clerodendron trichotomum Thunb.; DC. Prodr. XI. 668; Bot. Mag. t. 6561; Forb. et Hemsl. l. c. 262; Diels l. c. 550. 蘇州

Verbena officinalis L.; Bot. Mag. Tokyo XX. 142 蘇州

Vitex Negundo L.; Bot. Mag. Tokyo l. c. 天平山

Ajuga genevensis L.; DC. Prodr. XII. 596; Max. in Mél. Biol. XI. 815; Forb. et Hemsl. l. c. 315; Diels l. c. 550, et XXXIV. Beibl. Nr. 75, p. 62. 上方山, 獅子山

Elsholzia cristata Willd.; Benth. in DC. Prodr. XII. 163; Hook. f. Fl. Brit. Ind. IV. 645; Bot. Mag. t. 2550; Forb. et Hemsl. l. c. 277; Diels l. c. 560. 靈巖山

The present specimen has much smaller leaves than the Japanese one. It seems to be of *forma saxatilis* Kom., Fl. Mans. III. 390.

Lamium album L.; Bot. Mag. Tokyo l. c. 143. 蘇州

Leonurus sibiricus L.; Bot. Mag. Tokyo l. c. 天平山

Mentha arvensis L.; Benth. in DC. Prodr. XII. 171; et Fl. Hongk. 276; Hook. f. Fl. Brit, Ind. IV. 648; Forb. et Hemsl. l. c. 281; Diels l. c. 559; *Somoku-Zusetsu* 2. ed. XI. fol. 28. 蘇州

Mosla grosseserrata Max. in Mél. Biol. IX. 432; Forb. et Hemsl. l. c. 280. 天平山

M. punctata Max. l. c. 436; Forb. et Hemsl. l. c. 281; Diels l. c. 560. 上方山

Specimen very imperfect, but I notice 3 teeth of the upper lip of the calyx are subequal; this is an important character of the present species.

M. soochouensis n. s.

Herb, annual?, 3–4 dm. high, pubescent, stem 4–angled,

branching ; leaves opposite, lanceolate, shortly petiolate (petiole 5mm. long), subacuminate, subcuneate at base, serrate, glabrous, densely punctated with glands and glaucous below, (lamina 2–3 × .6–.8 cm.) ; racemes terminal, elongated, loose flowered ; bracts minute, not exceeding fruiting pedicel, suborbicular, cuspidate ; flowers about 6 mm. in length ; calyx pubescent, slightly 2–labiate, or 5 lobed, lobes subequal, slightly gibbose in fruit ; corolla about twice as long as calyx, 2–labiate, upper lip erect emarginate, lower one 3–lobed, the median lobe largest ; stamens 4, posterior or upper 2 fertile, subexserted, with cells of anthers divergent, anterior or lower 2 sterile, included ; ovary deeply 4–parted, style subexserted, 2–parted above, branches subequal ; nucules brownish, globose, reticulated, densely covered with minute dotes, furnished with a protuberance at base.

Souchow. (蘇州)

M. lanceolata Max. seems to be an allied species, but it differs from the present one by having the lanceolate brats exceeding pedicel.

Nepeta Glechoma Benth. ; Bot. Mag. Tokyo XX. 143. 靈巖山

Salvia japonica Thunb. var integrifolia Fr. et Sav. ? ; Bot. Mag. Tokyo XXI. 215. 天平山

Salvia miltiorhiza Bge. ; Benth. in DC. Prodr. XII. 177 ; Forb. et Hemsl. l. c. 280 ; Diels l. c. 557.=*S. pogonocalyx*. Hance in Journ. Linn. Soc. XIII. 85. 蘇州

S. plebeia R. Br. ; Bot. Mag. Tokyo XX. 143. 蘇州

Scutellaria indica L. ; Bot. Mag. Tokyo l. c. 144. 上方山, 獅子山

S. rivularis Wall. ; Benth in DC. Prodr. XII. 426 ; Wight Ic. Pl. Ind. Or. t. 1450 ; Hooker f. Fl. Brit. Ind. IV. 670 ; Matsum. et Hayata, Enum. Pl. Formos. 314 ; Bot. Mag. Tokyo l. c. 蘇州

According to Wight the flower is white, but Hooker states it is blue. In my specimen it is blue too. Wight's figure represents the leaves as entire, but Bentham describes them as crenate.

C. **Monochlamydeae**

Alternanthera sessilis R. Br. ; Bot. Mag. Tokyo XX. 144. 蘇州

Amarantus paniculata L. ; Moq. in DC. Prodr. XIII. 2. p. 257 ; Hook. f. Fl. Brit. Ind. IV. 718 ; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 320 ; Diels in Engl. Bot. Jahrb. XXIX. 316. 蘇州

Chenopodium album L. ; Bot. Mag. Tokyo l. c. 145. 蘇州

Polygonum aviculare L. ; Bot. Mag. Tokyo l. c. 蘇州

P. flaccidum Meisn. in DC. Prodr. XIV. *pro parte ;* Hook. f. Fl. Brit. Ind. V. 39 ; Forb. et Hemsl. l. c. 339. 蘇州

P. japonicum Meism ; Bot. Mag. Tokyo l. c. 231 蘇州

P. lapathifolium L. ; Hook. f. Fl. Brit. Ind. V. 25. 蘇州

var. **incanum** Ledeb. Fl. Ross. III. 521 ; Bot. Mag. Tokyo l. c. 145. 上方山

P. Orientale L. ; Bot. Mag. Tokyo l. c. 蘇州

P. Posumbu Hamil. ? ; Forb. et Hemsl. l. c. 346 ; Diels l. c. 312 ; Nakai in Bot. Mag. Tokyo XXIII. 394 (*in Japanese*). 蘇州

Specimen not very good, determination unsatisfactory.

P. strigosum R. Br. ; Meisn. in DC. Prodr. XIV. 134 ; Hook. f. Fl. Brit. Ind. V. 47 ; Forb. et Hemsl. l. c. 350. 蘇州

P. Thunbergii Sieb. et Zucc. Fl. Jap. II. 84 ; Meisn. in DC. Prodr. l. c. 132 ; Fr. et Sav. Enum. Pl. Jap. II. 475 ; Forb. et Hemsl. l. c. 351 ; Diels l. c. 314 ;

var. **Maackiana** (Regel) Max. ; Fr. et Sav. l. c. 蘇州

var. hastato-triloba Max. is almost indistinguishable from the present specimen when we follow the description ; but Franchet and Savatier refer var. *hastato-triloba to Somoku Zusetsu* Vol. VII. fol. 47, and *Honzo Zufu* Vol. XL. fol. 14 recto, both of which represent a plant differing from the present one.

P. viscosum Ham. ; Meisn. l. c. 102 ; Benth. Fl. Hongk. 287 ; Hook. f. Fl. Brit. Ind. V. 36 ;

var. **minor** Hook. f. l. c. ? 上方山

Herb, 4 or 5 dm. high, branched, pili patent, leaves ovate subacute, cuneate at base, then gradually attenuated and form-

ing wings to tne petiole, sheath short, densely covered with pili, peduncles glandular, spike densely flowered, shorty cylindrical, perianth 5, purplish, stamens 5?, nut trigonose, chestnut colored, style 3.

Rumex acetosa L.; Bot. Mag. Tokyo XX. 146. 蘇州

Lindera glauca Bl.; Bot. Mag. Tokyo l. c. 上方山, 天平山

Elaeagnus pungens Thunb; Bot. Mag. Tokyo l. c. 147. 蘇州

This species differs from an allied one *E. Bockii* Diels by having longer peduncles (more than 5mm.). The peduncle is said to be 1—2.5 mm. in *E. Bockii*.

Thesium chinense Turczu; Bot. Mag. Tokyo l. c. 148. 上方山

Euphorbia Esula L. Boiss. in DC. Prodr. XV. 2. p. 160; Sow. Eng. Bot. VIII. 107; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 412; Diels in Engl. Bot. Jahrb. XXIX. 431. 蘇州

Glochidion Fortnni Hance in Ann. Sc. Nat. 4 ser. XVIII. 298? 天平山

Mallotus Apelta Muell. Arg. in Linnaea XXXIV. 189, et in DC. Prodr. XV. 2. p. 963; Forb et Hemsl l. c. 439; Diels l. c. 428; =*M. japonicus* in Bot. Mag. Tokyo XX. 164, non Muell. Arg.; =*Rottlera chinensis* Juss.; Hook. et Arn. Bot. Beech. Voy. 212; Benth. Fl. Hongk. 306. 平天山

Phyllanthus simplex Retz.; DC. Prodr. XV. 2. p. 391; Hook. f. Fl. Brit. Ind. V. 295; Forb. et Hemsl. l. c. 423; Diels l. c. 427; Hayata in Journ. Sci. coll. Imp. Univ. Tokyo vol. XX. Art. 7. p. 10; =*Ph. anceps* Vahl.; Benth. Fl. Hongk. 331. 蘇州

Sapium sebiferum Rorb.; Bot. Mag. Tokyo XX. 232. 蘇州

Aphananthe aspera Planch.; Bot. Mag. Tokyo l. c. 蘇州

Celtis sinensis Pers?; Bot. Mag. Tokyo l. c. 165 上方山

Ulmus parvifolia Jacq.; Bot. Mag. Tokyo l. c. 233. 蘇州

Platycarya strobilacea Sieb. et Zucc.; Bot. Mag. Tokyo l. c. 166. 天平山, 上方山

Pterocarya stenoptera DC.; Bot. Mag. Tokyo l. c. 蘇州

Quercus aliena Bl.; Bot. Mag. Tokyo l. c. 166. 蘇州

Q. Fabri Hance in Journ. Linn. Soc. X. 202; et in Journ.

Bot. 1875, 362 ; Forb. et Hemsl. l. c. 512. 天平山

Monocotyledones.

Platanthera interrapta Maxim. ; Bot. Mag. Tokyo XX. 168. 靈巖山

Spiranthes australis Lindl. ; Bot. Mag. Tokyo l. c. 天平山

Liriope spicata Lour. ; Bot. Mag. Tokyo XX. 235. 天平山

Lycoris radiata Herb. ; Kunth. Enum. V. 546 ; Max. in Engl. Bot. Jahrb. VI. 78 ; Wright in Journ. Linn. Soc. 89. 蘇州

Allium nipponicum Fr. et Sav. ; Bot. Mag. Tokyo l. c. 169. 靈巖山

This species is not yet reported from China by European authors. Unfortunately my material is not ample and even good.

Hemerocallis sp. 天平山

Scilla chinensis Benth. Fl. Hongk. 373 ? ; Bak. in Journ. Linn. Soc. XIII. 233 ; Wright in Journ. Linn. Soc. XXXVI. 127 ; Diels in Engl. Bot. Jahrb. XXIX. 245 ; Komarov. in Fl. Mans. I. 465 ; = *Barnardia scilloides* Lindl. ; Hook. Bot. Mag. t. 3788 ; Kunth. Enum. Pl. IV. 337. 蘇州

The present species seems to be closely allied to or even conspecific with *S. japonica* ; but the latter is not hitherto reported from China Proper, while the former is.

Aneilema Keisak Hassk. Commel. Ind. 32 ; Clarke in DC. Monogr. Phan. III. 207 ; Brown in Journ. Linn. Soc. XXXVI. 152 ; = *A. oliganthum* Fr. et Sav. Enum. Pl. Jap. II. 94. et 532. 蘇州

Commelina communis L. : Benth. Fl. Hongk. 376 ; Clarke in DC. Monogr. Phan. III. 170 ; Brown in Journ. Linn. Soc. XXXVI. 155, Diels in Engl. Bot. Jahrb. XXIX. 237. 上方山

Juncus alatus Fr. et Sav. ; Bot. Mag. Tokyo XX. 169. 上方山

J. bulbosus L. ? ; Kunth. Enum. Pl. III. 351 ; Brown in Journ. Linn. Soc. XXXVI. 163 ; = J. *compressus* Jacq. ; Buchenau in Engl. Bot. Jahrb XII. (1890)185 ; Sow. Eng. Bot. X. 37, t. 1575. 蘇州

Determination unsatisfactory.

J. effusus L. ?; Bot. Mag. Tokyo l. c. 170. 蘇州

Luzula campestris DC.; Bot. Mag Tokyo l. c.

var. **intermedia** KOIDZ. in Journ. Col. Sci. Imp. Univ. Tokyo XXVII. Art. 13 (Plantae Sachalinenses Nakaharanae), 32. 蘇州

This variety is new to the Chinese Flora.

Arisaema japonscum Bl.; Kunth. Enum. III. 16; Engl. in DC. Monogr. Phan. II. 539; Diels in Engl. Bot. Jahrb. l. c. 236; Brown l. c. 178. 蘇州

The specimen lacks both fl. and fr.; determination unsatisfactory.

Alisma Plantago L. var. **angustifolium** KUNTH, Enum. Pl. III. 148; Wright in Journ. Linn. Soc. XXXVI. 189. 天平山

Sagittaria sagittifolia L.; Kunth. Enum. Pl. III. 156; Diels in Engl. Bot. Jahrb. l. c. 220; Wright l. c. 190. 蘇州

Carex breviculmis R. Br. Bot. Mag. Tokyo XX. 171. 州蘇

C. (Rhomboidales Kük.) **laticeps C. B.** CLARKE ?; Diels l. c. 232; Clarke in Journ. Linn. Soc. l. c. 293; Kükenthal in Pfl.Reich, Heft 38 (Caricoid.) 633. 上方山

Rhizome thick, lignose, culms 3–4 dm. high, smooth, leafy at base; leaves shorter than culms, 4–6 mm broad, coriaceous, pubescent; spikes 2, rarely 3, the terminal ♂, cylindrical or subclavate, 2.5–3 cm. long, the lateral ♀, cylindrical 3 cm. long, 8 mm. across, shortly pedunculate, bracts with long vagina and short lamina; scales of the female spike ovate, acuminate, whitish, with distinct green midnerve, hispido-pubescent; utricle ovoid, turgido trigonal, 6 mm. long (incl. rostrum), olivaceus, hispido pubescent, multinerved, rostrum subcylindrical, nearly as long as the body of the utricle, mouth shortly bifurcate; achenium trigonose, constricted in the middle, crowned with the thickened remains of the basal portion of style; stigma 3.

Kükenthal describes the margin of rostrum as setose, but in my specimen it is simply hispidulous.

C. neurocarpa Max.; Bot. Mag. Tokyo l. c. 172. 上方山

C. nubigena Don.; Bot. Mag. Tokyo l. c.;

var. **albata** (Boott) KÜK. forma **laxiuscula** KÜK. l. c. 146. ? 上方山

Kükenthal states about this *forma :* "spicula [spica ?] elongata, cylindrica, subinterrupta." The present specimen is certainly of *var. albata* and probably of *forma laxiuscula.*

C. tristachya Thunb. ; Boott, Carex IV. 131, t. 424 ; Diels in Engl. Bot. Jahrb. XXIX. 231 ; Clarke in Journ. Linn. Soc. XXXVI. 315 ; Kük. l. c. 471. 蘇州

In this specimen the scales of the female spike are not mucronate ; and those of the male *not cup-shaped.* It is certainly not of var. *pocilliformis* (Boott) Kük. , as in this variety male scales are cup-shaped.

Cyperus difformis L. ; Benth. Fl. Hongk. 385 ; Kunth. Enum. Pl. II. 38 ; Clarke in Hook. f. Fl. Brit. Ind. VI. 599 ; et l. c. 210. 蘇州

C. Iria L. ; Kunth. Enum. Pl. II. 38 ; Benth. Fl. Hongk. 386 ; Clarke in Hook. f. Fl. Brit. Ind. VI. 606 ; Diels in Engl. Bot. Jahrb. XXIX. 227 ; Clarke in Journ Linn. Soc. XXXVI. 213. 蘇州

C. sp. 天平山

A specimen of a tall Cyperus consisting of the upper portion of the plant. ; flowers not fully developed. Quite indeterminable.

Fimbristylis diphylla Vahl. ; Benth. Fl. Hongk. 392 ; C. B. Clarke in Hook. f. Fl. Brit. Ind. VI. 636 ; Diels in Engl. Bot. Jahrb. XXIX. 129 ; Clarke l. c. 233. 蘇州

This species is variable ; and some authors distinguish several varieties.

E. miliacea Vahl. ; Benth. Fl. Hongk. 393 ; Clarke in Hook. f. Fl. Brit. Ind. VI. 744 ; Diels l. c. 229 ; Clarke in Journ. Linn. Soc. XXXVI. 239. 蘇州

Pycleus sanguinolentus Nees. ; C. B. Clarke in Hook. f. Fl. Brit. Ind. VI. 599, et in Journ. Linn. Soc. l. c. 206. 蘇州

Rhynchospora glauca Vahl. var. *β.* **chinensis** C. B. Clarke in Hook. f. Fl. Brit. Ind. VI. 672, et in Journ. Linn. Soc. l. c. 259 ; =*Rh. chinensis* Boeck. in Linnaea XXXVII. 586 (non Nees et Meyer). 天平山

My specimen is not very good ; determination unsatisfactory. Spikelets 1/4 in. long, beak equaling nut in length, hypogynous bristles reaching top of the beak. In the type of the species,

spikelets have a little shorter, hypogynous scales not reaching the top of the beak, (specim. in our Herb. det. by Clarke seen).

Rh. Wallichiana KUNTH. Enum. Pl. II. 290; C. B. Clarke in Hook. f. Fl. Brit. Ind. VI. 668; et in Journ. Linn. Soc. l. c. 260. 天平山

Scleria hebecarpa NEES; Kunth l. c. 357; Boeck. in Linnaea XXXVIII. 478; Clarke in Hook. f. Fl. Brit. Ind. VI. 689; et in Journ. Linn. Soc. l. c. 264; =*S. japonica* Stend. Cyper. 169. 天平山

Agrostis perennans Tuck.; Bot. Mag. Tokyo XX. 173. 上方山

Alopecurus aequalis SOBOL.; Rendle in Journ. Linn. Soc. XXXVI. 384; =*A. fulvus* Smith; Bull. Herb. Boiss. VII. (1899) 648; =*A. geniculatus* L.; Pilger in Engl. Bot. Jahrb. XXIX (1900)224. 蘇州

A. japonicus Steud.; Bot. Mag. Tokyo l. c. 上方山

Beckmannia erucaeformis Host.; Bot. Mag. Tokyo l. c. 上方山

Cymbopogon Nardus RENDLE subsp. **marginatus** var. **Goeringii** HACK.; Rendle in Journ. Linn. Soc. l. c. 376; =*Andropogon Nardus* L. subsp. *marginatus* var. *Goeringii* Hack. Monogr. Androp. 607. 靈巖山

Eremochloa ophiuroides HACK. Monogr. Androp. 261; Rendle l. c. 363; =*Ischaemum ophiouroides* Munro; Benth. Fl. Hongk. 425. 蘇州

Ophiurus monostachyus Presl. is apparently similar to the present species.

Ischaemum ciliare RETZ.; Hook. f. Fl. Brit. Ind. VII. 134; Hack. in Bull. Herb. Boiss VII. (1899)723; Rendle l. c. 365 蘇州

Panicum acroanthum STEUD. Sypop. Gram. 87; Hack. in Engl. Bot. Jahrb. VI. (1884) 49, et in Bull. Herb. Boiss. VII. (1899)544, et sér. 2, III. (1903)302; Rendle l. c. 327. 蘇州

P. indicum L.; Benth. Fl. Hongk. 413. Pilger in Engl. Bot. Jahrb. XXIX. (1900)223; Rendle l. c. 330. 蘇州

Rendle l. c. distinguishes 2 varieties, namely: *angustatum* Hook. f. Fl. Brit. Ind. VII. 42, and *contractum* Miq. in Ann.

Mus. Bot. Lugd.-Bat. II. 275. But according to Hooker, var. *angustatum* is mere "starved form" of the species; and var. *contractum* is not distinguished from the type by Miquel, and also by Franchet and Savatier.

P. Matsumurae Hack. in Bull. Herb. Boiss. (1899)644; Matsum. Index. Pl. Jap. Phanerog. pars 1(1905), 70; =*Setaria excurrens* Miq. Prol. 163 (*non Trin*). 天平山

So far as I know this name has not been reported from China.

Setaria Forbesiana Hook. f. apparently resembles the present spcies.

Pasparum scrobiculatum L.; Benth. Fl. Hongk. 408; Pilger in Engl. Bot. Jahrb. XXIX. 223; Hook. f. Fl. Brit. Ind. VII. 10; Rendle l. c. 320=*P. Thunbergii* Kunth. (sec. Rendle).

Rottboellia compressa L. var. **Japonica** Hack. Monogr. Androp. 288; et in Bull. Herb. Boiss. sér. 2, III. (1903)501; Rendle l. c. 361. 蘇州

Rendle distinguishes 3 var. namely: *genuina, fasciculata* and *japonica*; and states that *var. japonica* is scarcely distinguishable from *var. fasciculata*. However, after Hackel the distinction between the two though slight is as follows:

Spiculis cum callo 2 mm. longo glabro 6–7 mm. longis . . var. fasciculata Hack.

Spiculis cum callo 1 mm. longo glabro rectangulo minus distincto 6–7 mm. longis . . . . . var. japonica Hack.

Sorghum falvum Beauv.; Rendle l. c 367; =*Andropogon serratus*, Thunb. var. *genuinus* Hack. Monogr. Androp. 521; et in Bull. Herb. Boiss. VII. (1899)642 et sér. 2, III (1903)501; Hook. f. Fl. Brit. Ind. VII. 185. 蘇州

Spodiopogon cotulifer Hack. Monogr. Androp. 187 et in Bull. Herb. Boiss. VII. (1899) 461, et sér. 2, III. (1908)501; Hook. f. Fl. Brit. Ind. VII. 108; Rendle l. c. 351. 蘇州

Themeda triandra Forsk. (=Th. Forskali Hack.) var. major subvar. japonica Hack. Monogr. Androp. 662; Komarov in Act. Hort. Petrop. XX. (1901)251; Rendle l. c. 378; =*Th. Forskali* in Bot. Mag. Tokyo XX. 236. 蘇州

Lygodium japonicum Sw. ; Bot. Mag. Tokyo XX. 177. 蘇州

Nephrodium glanduligerum Makino in Bot. Mag. Tokyo (1896)58 ;=*N. gracilescens* Hook. Synop. Fil 262 ; Diels in Engl. Bot. Jahrb. XXIX. 199 ;=*N. gracilescens* var. *glanduligerum* Bak., Hook. Synop. Fil. 262. 蘇州

Pteridium aquilinum (L.) Kuhn ; Diels l c. 202. 上方山

Pteris serrulata L. fil. ; Bot. Mag. Tokyo XX. 178 天平山 靈巖山

Observations on the Flora of Japan.

(*Continued from p. 122.*)

By

T. Makino.

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Desmodium Maximowiczii Makino, nom. nov.

Desmodium podocarpum var. latifolium Maxim. in litt.; Matsum. Shokubutsu Mei-i (1895), p. 104.

Desmodium oxyphyllum var. villosum Matsum. in Bot. Mag., Tokyo, XXI. p. 59.

Nom. Jap. *Hiroha-no-nusubitohagi.*

Hab. Japan.

Prunus Koidzumii Makino, sp. nov. (Fig. XII.)

Prunus Pseudocerasus Dipp. Handb. Laubholzk. III. (1893), fig. 253, vix non Lindl., excl. syn.

Prunus pseudo-Cerasus var. γ. serrulata subvar. b. Sieboldi Makino in Bot. Mag., Tokyo, XXII. (1908), p. 102, pro parte.

A tree; branches cinereo-castaneous, with old lenticels; branchlets cinereo-castaneous or rufescent-castaneous, terete, glabrous, dispersed with punctiform lenticels; young branchlets foliiferous, terete, glabrous, smooth, light green and usually shaded with purple, dispersed with minute punctiform or fusiform lenticels. Leaves obovato-elliptical, obovato-oval, or elliptical, rounded-obtuse or rounded or subcordate at the base, abruptly caudato-acuminate at the apex, duplicately dentato-serrate with deltoid or ovato-deltoid sharp teeth, membranaceous, green and not shining or slightly shining and dispersedly pubescent with patent hairs above, paler and pubescent with patent hairs beneath (hairs denser on midrib and veins also on

FIG. XII.

transverse main veinlets), 4–11½ cm. long, 2½–6½ cm. broad; veins about 8–10 on each side, erect-patent, slightly arcuate above, connected to the upper next one at the end near the margin; main veinlets transverse between veins, and small veinlets finely anastomosing between main veinlets; petiole pubescent with spreading pale hairs throughout, terete, narrowly canaliculate in front, with 1–2–3 sessile discoidal small purple glands in the apical portion (the gland often placed on the basal portion of the margin of the blade), light green and usually shaded with purple in front, about 10–18 mm. long; young leaves softly and densely pubescent on both surfaces and in the petiole; midrib prominent beneath; stipules small, shorter than the petiole, shortly few-laciniate or subflabellately few-laciniate with subulate subulato-linear or linear sometimes lato-linear acuminate-tipped erect-patent lobes, or nearly so, glanduloso-fimbriate with erect-patent loose

ciliiform-denticles on margin, 3–15 mm. long, viridescent and shaded with purple, deciduous. Inflorescence protected with deciduous perulæ at the base, umbellately or corymboso-racemosely 1–4-flowered, bracteate and often bracteolate; rachis light green, very slightly pubescent with patent hairs, attaining about 10 mm. in the longest one; common peduncle short, straight, light green, glabrous or very thinly pubescent above, 3–17 mm. long; bracts herbaceous, sessile, depressed-obovate, depressed-orbiculate, or orbiculate, broadly and shortly cuneate towards the base, truncato-rounded or rounded at the apex, glanduloso-denticulate with often purpurascent teeth, green and often thinly shaded with purple, flabellately veined, and reticulately venuled above, glabrous or very slightly pubescent at the base dorsally, 4½–10 mm. long, 4–10 mm. wide, sometimes the lowest one 3–lobed or flabellato-lobed, rarely attaining about 15 mm. long, 11 mm. wide; bracteoles placed in the basal portion of the pedicel, cuneato-obovate, rounded-obtuse at the apex, glanduloso-denticulate; perulæ imbricated, reflexo-patent in the inner ones, the lower ones small, chartaceo-crustaceous, shining, glabrous, semiorbiculate to semiorbiculato-ovate, obtuse, darkish-fulvous, the middle ones larger, membranaceo-subcrustaceous, ovate to obovato-oblong, obtuse, ciliated, pubescent above internally, the upper (inner) ones largest, herbaceous, viridescent and often shaded with purple, attaining about 12 mm. long and 5 mm. broad, spathulato-oblong, attenuated and cuneated below, shortly 3-fid (occasionally flabellately lobed) with obtuse or acutish lobules at the apex, glanduloso-ciliated, glabrous externally, tomentoso-pubescent with light-leather-coloured hairs internally, theso of the leaf-bud often more or less larger and sometimes deep–3–fid in the interior one, the middle lobe often developed into a small petiolate leaf. Flower coetaneous or sometimes precocious, semi-double, or sometimes nearly simple, about 4cm. across, dilute-rosy but usually deeper towards the upper margin of petals, lately turned to a purpurascent hue in bottom of corolla; pedicels short, erect or erect-patent, narrowly terete, thinly pubescent with pale-rufescent patent hairs, light-green and often shaded with purpuras-

cent hue, 12–23 mm. long. Calyx thinly pubescent, herbaceous, light-green and usually with a purpurascent shade, deciduous; tube short, obconico-obovate, acutely reduced and continued to the pedicel at the base, 4–6 mm. long, 3–4 mm. across in the top, pubescent hairs patent, the inner side yellowish-greenish and nectariferous in the lower half but white and lately purpurascent in the upper half; lobes 5 or 6 and often accompanied by the few small accessory ones between them, with close sinuses between lobes, patent, longer than the tube, 5–8 mm. long, 3–5 mm. wide, lato-ovate, ovato-elliptical, or oval-elliptical, obtuse or rounded or acutish at the apex, serrulate and thinly ciliated on margin, depressedly thin-pubescent externally, glabrous and slightly concave internally, triplinerved towards the median portion and reticulato-venuled towards the margin. Petals several to subnumerous, spreading, obovato-orbicular or obovato-oval, sessile and broadly cuneate at the base, emarginate with rounded lobes and a close sinus at the apex, entire, often plicate in centre, membranaceous, delicately reticulato-nervate, 16–21 mm. long, 13–18 mm. broad, deciduous. Stamens numerous, inserted on the throat of the calyx, erect-patent but erect in the inner ones, unequal in length, attaining about 9 mm. long in the outer longest ones, some of them often stipitato-petaloid; filament subulato-filiform, glabrous, white, lately gradually turned to purple; anther minute, rounded, minutely bifid at both ends, introrse, with oblong anther-cells, 1 mm. long, yellow. Ovary 1, small, ovoid, sessile, green, glabrous, smooth, $1\frac{1}{2}$ mm. long, 2-ovuled; style erect, slender, equal to or a little exserted upon the stamens in height, pale-green, light-green towards the stigma, glabrous but scantily pilose with spreading hairs at the base above the ovary, 11–14 mm. long; stigma small, truncate, oval to elliptical, concave in centre, light-green. Drupe.....

Nom. Jap. *Naden.*

Hab. Japan, cultivated (*T. Makino*!).

This is found in gardens, but its wild tract is yet unknown to us. Florists call it by the vulgar name of *Naden.* It differs from the various forms of *Prunus serrulata* Lindl., and

is unquestionably a distinct species, to which *P. pseudo-Cerasus* Lindl. (in Transact. Hortic. Soc. VI. 1826, p. 91.) comes very near. The ramules of our species are quite glabrous, while those of *P. pseudo-Cerasus* Lindl. are pubescent after the author. I have named this graceful species in honour of Mr. G. Koidzumi, who devoted to the study of the Japanese *Rosaceae*.

Acer (Rubra) **rubrum** Linn. Sp. Pl. p. 1055, Cod. n. 7636.
var. pycnanthum (C. Koch) Makino.

Acer pycnanthum C. Koch in Miq. Ann. Mus. Bot. Lugd.-Batav. I. (1863–64), p. 250; Sieb. et Zucc. Fl. Jap. II. p. 86, tab. 143, fig. 1, et 1–4; Miq. Prol. Fl. Jap. p. 21, et in Archiv. Nêerland. II. p. 470, 477, pro parte!; Franch. et Sav. Enum. Pl. Jap. I. p. 90, et II. p. 322, pro parte!; Maxim. in Mél. Biol. X. p. 591; Pax in Engler's Bot. Jahrb. VII. p. 254.

Acer rubrum Makino in Bot. Mag., Tokyo, XVI. (1902), p. 93 (Jap.); Koidzumi, Rev. Acer. Jap. (1911), p. 27, tab. 16.

Nom. Jap. *Hana-no-ki, Hana-kayede.*

Hab. Japan, central.

It grows always in dry places, and is not found yet in wild, but planted. Rarely the trunk attains about 1½ m. in diameter, about 23 m. in height. This is only representative of the Sect. *Rubra* among the Japanese Maples.

Veronica japonensis Makino, nom. nov.

Veronica cana var. decumbens Makino in Bot. Mag., Tokyo, XXI. (1907), p. 32.

Stem repent, radicant.

Nom. Jap. *Tsuru-kuwagata* (T. Makino) *Yama-kuwagata, Koba-no-kuwagata.*

Hab. Japan, central, mountains.

Viola (Nomimium) **yedoensis** Makino, sp. nov.

Acaulescent; roots thickish, terete, elongate, perpendicular

or more or less spreading, often dividing from the base, with fine rootlets, pale. Leaves many, tufted, erect or erect-patent; blade (in the flowering time) narrowly lanceolate to ovato-lanceolate, obtuse with a subcallose tip at the apex, obtuso-truncate to subcordato-truncate at the base, coarsely depressed-crenate, puberulent with short patent white hairs on both surfaces (but often subglabrous in the lower leaves), hoary-green above, paler beneath, ciliated, rather flaccid, about 2–6 cm. long, 1–1½ cm. wide; midrib prominent beneath, pale, pulvereo-puberulent with short patent white hairs; veins about 5–9 on each side, loose, erect-patent, arcuate above; petiole usually long, about 2–6 cm. long in flower, narrowly viridi-alate (the alæ are the decurrency from the blade) on both edges above, pale-green and usually thinly purpurascent above, and pale below, flatish in front, rounded dorsally, puberulent with short patent white hairs; stipule long-adnate, about 1½–3⅓ cm. long, narrow, white or light purple above, thin, entire and usually very loosely short-glanduloso-ciliated, the free tip subulato-deltoid, subulate, or subulato-linear, acuminate, erect, scantily glanduloso-ciliated, 2–7 mm. long. Leaves after the flowering time increasing the size, subdeltoid-lanceolate, obtuse at the apex, cordato-auriculate and decurrent with the form of deltoid above at the base, depressed-crenate, white-puberulent except the lower shorter leaves (which are narrowly ovate to ovato-lanceolate), attaining about 8½ cm. long, 3⅓ cm. broad, green above, paler beneath, with about 5–9 erect-patent veins on each side of the midrib; petiole long, slender, semiterete, flatish in front, broadly canaliculate by the very narrow green alæ of both sides and light green moreover puberulent above, usually purpurascent towards the base. Scapes few to many, shorter than or equal to or slightly exserted upon the leaves, erect, slender, subangulate, very thinly purpurascent, puberulent with short patent white hairs, about 3–8 cm. long; bracts 2, below the middle or in the middle, adpressed, opposite, or subopposite, or sometimes alternate, angustately subulato-linear, acuminate, carinate dorsally, light purple and often viridescent above, glabrous, glanduloso-ciliated on the basal margin, 4–12 mm. long.

Flower about 18-27 mm. across, violet, inodorous, nodding. Sepals glabrous (but often slightly puberulent in back in those of the cleistogamous flowers), subulato-lanceolate or ovato-lanceolate, acuminate, entire, thin and narrowly scarious on margin, triplinerved, herbaceous, light green and sometimes thinly shaded with purple, 5–8½ mm. long (often very slightly longer in those of the cleistogamous flowers); basal-auricles depressed-square or semiorbicular, truncate or rounded or retuso-rounded at the apex, glabrous or thinly ciliolated (much so in those of the cleistogamous flowers) on margin, 1–1½ mm. long, those of the inner 2 much smaller and deltoid. Petals glabrous, entire, thin; upper 2 obovate or obovato-elliptical, rounded or subretuso-rounded at the apex, subcuneately attenuated and short-subunguiculate (slightly white in the anguis) at the base, 12–17 mm. long, 7–11 mm. broad; lateral 2 somewhat oblique in form, obovato-elliptical, rounded or retuso-rounded at the apex, subcuneate and subunguiculate at the base, naked (beardless) on the face, white and violet-veined towards the base, 13–17 mm. long, 6–9 mm. broad; lower one obovate, cuneately attenuated below, emarginato-rounded or emarginate at the apex, 12–16 mm. long, 8–11 mm. broad, violet and deep-violet-veined above, white and flabellately deep-violet-veined below or below and centrally; spur straight, oblong-tubular or linear-tubular, rounded or rounded-obtuse at the apex, often compressed laterally, violascent, glabrous, 7–8 mm. long. Stamens 3–4 mm. long; anther cream-pallid and sometimes violascent dorsally, rectangular-elliptical; connective-tip as long as the anther, ovate, acutish or obtuse, thin, rufescent; anther-appendages linear-filiform, attenuated above, viridescent, glabrous, 5–5½ mm. long. Ovary ovoid or ovoid-ellipsoid, glabrous, viridescent and sometimes thinly shaded with violascent tint, 1½–2 mm. long; style equal to or scarcely longer than the ovary, clavately enlarged towards the stigma, geniculate near the base, pale, glabrous; stigma deltoid marginate, truncate, with obtuse angles; ovules many, ellipsoid. Capsule ellipsoid, 3-facial with obtuse angles (the face with very shallow vertical grooves, the middle groove is the sutural

line), obtuse and mucronate with the style-base at the apex, with the persistent green calyx at the base, about 8 mm. long.

Nom. Jap. *Nodzi-sumire* (nov.).

Hab. Prov. MUSASHI: Tokyo and Its Vicinities (*T. Makino*!).

Viola (Nomimium) **minor** Makino, nom. nov.

Viola Patrinii var. minor Makino in Bot. Mag., Tokyo, VI. (1892), p. 50, et XVI. (1902), p. 126.

Root elongate, white. Leaves usually long-petiolate, oval-deltoid to deltoid with a subauriculato-cordate to subhastato-sagittate base and an obtuse or acutish apex in fruit; petiole slender. Flower small, violet.

Nom. Jap. *Hime-sumire*.

Hab. Japan.

Viola (Nomimium) **Maximowicziana** Makino in Bot. Mag., Tokyo, XVI. (1902), p. 128.

Viola Selkirkii forma major Maxim. in litt. (1888).

Viola serpens Yatabe, non Wall.

The reflexed calyx is a noteworthy point.

forma typica Makino.

Leaves dull green, often albo-variegated along nerves above.

Nom. Jap. *Ko-miyamasumire*.

Hab. Japan, mountains.

forma rubescens Makino.

Leaves dark-rubescent when fresh, not variegated. Otherwise as in the type.

Nom. Jap. *Aka-komiyamasumire*.

Hab. Prov. MUSASHI: Mt. Takao (*T. Makino*!).

Viola (Nomimium) **obtusa** Makino, nom. nov.

? *Viola sylvestris forma obtusa* Miq. Prol. Fl. Jap. p. 86.

Viola ovato-oblonga var. obtusa Makino in Bot. Mag., Tokyo, XXI. (1907), p. 59.

Viola odorifera Makino, MSS.

Viola sylvestris var. odorifera Makino (1904).

Viola fragrans K. Tanaka, non Sieber, nec Wiesb.

Flowers purple, odoriferous.

Nom. Jap. *Nioi-tachitsubosumire.*

Hab. Japan, fields and hills.

Not uncommon over Japan.

var. Chibai Makino, var. nov

Flower white.

Nom. Jap. *Shirobana-nioitachitsubosumire.*

Hab. Prov. Rikuchû: Mukaiyama near Ichinoseki (*Yoshio Chiba* ! May 2, 1909).

Viola (Nomimium) **grypoceras** A. Gray in Perry's Exped. Jap. II. p. 308.

Viola sylvestris γ. grypoceras Maxim. in Mél. Biol. IX. p. 743.

Viola longepedunculata Franch. et Sav. Enum. Pl. Jap. II. p. 286.

Viola sylvestris var. japonica Makino in Bot. Mag., Tokyo, XVI. (1902), p. 146.

Viola canina ε? japonica Ging. in DC. Prodr. I. (1824), p. 298.

Nom. Jap. *Tachi-tsubosumire.*

Hab. Japan.

Common.

forma albiflora Makino.

Viola sylvestris var. japonica forma albiflora Matsum. Ind. Pl. Jap. II. 2, p. 380.

Stems tufted, ascending, glabrous. Leaves smaller, long-petiolate, deltoid or ovato-deltoid, subcordato-truncate at the base, obtuse at the apex, depressed-crenate, membranaceous, glabrous, 15–22 mm. long, 15–24 mm. broad, finely fusco-punctate when dried; stipule laciniato-fimbriate. Flower white, long-peduncled; bracts above the middle of the peduncle, linear. Sepals subulato-lanceolate, acuminate. Petals oblong.

Nom. Jap. *Shirobana-tachitsubosumire.*

Hab. Prov. Tosa: Mt. Yokogura (*T. Makino* !).

Merely a form with the white flower; it is met with occasionally.

Viola (Nomimium) **dissecta** Ledeb. Fl. Alt. I. (1829), p. 255, et Fl. Ross. I. (1842), p. 244; Maxim. Prim. Fl. Amur. p. 47.

Viola pinnata β. *dissecta* Turcz. Fl. Baic.-Dah. I. p. 178; Regel, Pl. Radd. I. p. 222; Maxim. in Mél. Biol. IX. p. 717, Fl. Tangut. p. 79, et Enum. Mongol. p. 79; Franch. Pl. David. I. p. 41.

This species is, I think, distinct from *Viola pinnata* Linn. The mode of the dissection of the leaves of this species rather resembles those of *V. pedata* Linn. than those of *V. pinnata* Linn.

var. chærophylloides (Regel) Makino.

subvar. a. typica Makino.

Viola pinnata δ. *chærophylloides* Regel, Pl. Radd. I. (1861), p. 222.

Root elongate, white. Leaves long-petiolate, pedately trisected with distinct petiolules; those in the flowering time many-dissected into angustate lacinæ; those in fruit much larger and much longer petiolate, segments lanceolate to broadly ovate, acuminate at the apex, all decurrent-cuneate at the base, laciniate and dentate, lacinæ lanceolate or angustately lanceolate, acuminate. Flower white, but marked with violet veiny lines towards the base in the lower petal, sometimes shaded with purple in the back of the upper petals, odoriferous, about 1½–2 cm. across, lower than or exserted upon the leaves; scape viridescent and usually shaded with purple, bibracteate below the middle. Sepals lanceolate or ovato-lanceolate, often obtuse at the apex, green. Petals obovate or obovato-oval; spur oblong or narrowly oblong.

Nom. Jap. *Nanzan-sumire.*

Hab. Prov. Tosa: Mt. Kuromori (*R. Yatabe*! herb. Sc. Coll. Imp. Univ. Tokyo, Aug. 3, 1888); Prov. Higo: Mt. Aso (*T. Makino*! Aug. 30, 1907), Nanataki-mura (*Kisaburô Miyake*! Aug. 15, 1906); Prov. Bungo: Mt. Uba-dake (*T. Makino*! Aug. 1911).

(Distrib.) Corea.

forma Sieboldiana (Maxim.) Makino.

Viola pinnata var. Sieboldiana Maxim. in Mél. Biol. IX. p. 718 (1876); Franch. et Sav. Enum. Pl. Jap. II. p. 646.

Viola chærophylloides var. Sieboldiana Makino in Bot. Mag., Tokyo, XIX. (1905), p. 87.

Viola Sieboldiana Makino, l. c. p. 144 (Jap.).

Leaves pedately trisected with petiolules, those in flower and in fruit dissected into constantly angustate lacinæ. Flower white, odoriferous, about $1\frac{1}{2}$–$1\frac{1}{3}$ cm. across; scape bi-bracteate below the middle.

Nom. Jap. *Higo-sumire.*

Hab. Japan, mountains.

(Distrib.) Corea.

This form is probably identical with the type of *V. dissecta* Ledeb., or merely a form of it. The flowering specimens are difficult to distinguish from those of *var. chærophylloides* (Regel) Makino.

subvar. b. multifida Makino.

? *Viola pinnata β. multifida* Regel, Pl. Radd. I. p. 221.

Viola dissecta var. chærophylloides subvar. Takahashii Makino, MSS.

Leaves long-petioled, 5-parted with narrow and closed sinuses, orbiculate or obovate in outline, subcordate at the base, membranaceous, glabrous, pedato-palmately nerved, about 3–5 cm. long, $2\frac{1}{2}$–$4\frac{1}{2}$ cm. broad; lobes confluent at base, narrow, obtuse-tipped, inciso-dentate or inciso-sublobuled with obtuse-pointed teeth, cuneate towards the base; mid-lobe larger and lanceolate; lateral upper lobes linear-lanceolate; lateral lower lobes smallest, ovate to ovato-lanceolate, often 2-parted; petiole attaining about 8 cm. long in flower. Flower as in the type; scape bi-bracteate below the middle.

Nom. Jap. *Momidzi-sumire* (nov.).

Hab. Corea: Mt. Nanzan (*A. Takahashi*!; *S. Iwasa*!).

An intermediate one between the *typica* and the next *subvar. albida* (Palib.) Makino. In Mt. Nanzan this occurs in the locality of middle height between the *typica* and the next one,

the *typica* growing near the foot, next one in the higher altitude. Leaves resemble those of *Viola pinnata* Linn.

subvar. c. albida (Palib.) Makino.

Viola albida Palib. Consp. Fl. Kor. I. (1898), p. 30, tab. 3, fig. 2.

Viola dissecta var. chærophylloides subvar. simplicifolia Makino, MSS.

Leaves long-petiolate, simple, not dissected, deltoid or ovato-deltoid, cordate at the base, short-acuminate at the apex, usually irregularly crenato-dentata obtuso-dentate or inciso-dentate, green, 1½–12 cm. long, 1½–8½ cm. wide. Flower white, marked with violet veiny lines towards the base of the lower petal, about 1⅔– nearly 3 cm. across, odoriferous; scape bi-bracteate below the middle, viridescent and usually purpurascent. Sepals lanceolate, viridescent. Petals oblong or obovate, lateral ones bearded; spur oblong.

Hab. Corea: Keifukukyū in Keijô (*K. Jō*!), Mt. Nanzan (*T. Uchiyama*!; *A. Takahashi*!; *S. Iwasa*!) Mt. Hokkanzan (*S. Iwasa*!).

var. eizanensis Makino, var. nov.

Viola pinnata var. dissecta Miq. Prol. Fl. Jap. p. 84; Franch. et Sav. Enum. Pl. Jap. I. p. 40, nec Turcz. nec Regel.

Viola pinnata var. chærophylloides Maxim. in Mél. Biol. IX. p. 718; Franch. et Sav. l. c. II. p. 646, non Regel.

Viola chærophylloides Makino in Bot. Mag., Tokyo, XIX. (1905), p. 17, non *V. pinnata δ. chærophylloides* Regel.

Viola pinnata Franch. et Sav. l. c. II. p. 291 (in consp. spec.), non Linn.

Acaulescent; roots elongate, few, with fine rootlets, white; rhizome erect, thick, sometimes very thick, protected by vaginæ above, sometimes attaining 3 cm. long. Leaves few- several- or sometimes subnumerous-tufted, long-petiolate, trisected with distinct petiolules, glabrous or puberulent on nerves and towards the margin and also ciliated, subflaccid, membranaceous, green, heteromorphous; those of the flowering time attaining about 9 cm. long and 7 cm. broad; segments ovate broadly ovate or oblong in outline, deeply dissected into lanceolate or linear-lanceolate acutish- or obtuse- or acuminate-tipped

pauci-lacinulated lacinæ, obtuse (rarely acute) to subcordate at the base, the lateral segments usually pedately 2–divided, with a shorter petiolule; petiole slender, about 2½–12 cm. long; stipules adnate, membranaceous, viridescent, the upper free portion narrowly subulate and very acuminate; those in fruit much larger sized and much longer petioled, cordate at the base, trisected with distinct petiolules, usually ample; segments ovato-lanceolate, elliptical-ovate, or ovate, acuminate, subinciso-serrato-dentate or coarsely crenato-serrate, simple, or often 2–sected in the lateral ones, often 3–parted in the middle one, cordate or subcordate at the base in the lateral ones, but cuneate to obtuse or subcordate at the base in the middle one, attenuated towards the apex, attaining about 14 cm. long, nearly 6 cm. broad; petiole attaining about 26 cm. long. Flowers few to several to a stock, lower or higher than leaves, rather large, about 2¼–2¾ cm. across, often odoriferous, mainly dilutely rosy with rosy veins or sometimes pale; scape 4–13cm. in height, glabrous, viridescent and often shaded with purple, bracteate in the lower portion; bracts 2, opposite, subulato-linear, acuminate, often purpurascent. Sepals glabrous, lanceolate or lato-lanceolate, acute, slightly larger and usually subfalcate in the lower 2, entire and not ciliated, with 3 main nerves, often shaded with purple, 12–18 mm. long including the basal auricles, 2–3½ mm. broad; basal auricles rectangular or subflabellato-rectangular, dentate or inciso-dentate at the apex, 2½–7 mm. long, those of the lateral sepals very minute and deltoid. Petals: upper 2 obovato-oval or obovato-elliptical or elliptical, rounded or subemarginate at the apex, shortly subunguiculate at the base, 13–18 mm. long, 8–10 mm. broad; lateral 2 scarcely longer than the upper ones, obovato-oblong, rounded at the apex, attenuated below, slightly barbate near the base, 14–19 mm. long, 7–9 mm. broad; lower one equal to the lateral ones in length except the spur, obovato-elliptical, subcuneate below, emarginate or nearly so at the apex, 7–11 mm. broad; spur oblong-elliptical to oval, rounded at the apex, straight, about 5–6½ mm. long, purpurascent or pale. Stamens 5 mm. long; anther oblong; connective-tip hardly

shorter than the anther, ovato-oval, oval-elliptical, or ovato-deltoid, rounded or acutish at the apex, membranaceous, rufous; appendages linear, gradually attenuated above, obtues at the apex, slightly dilated at the base, 5–6 mm. long. Ovary conico-ovoid, acute towards the style, glabrous, about 3 mm. long; style usually scarcely longer than the ovary, obscurely geniculate near the base, clavately enlarged above; stigma obovate, shortly rostrate. Capsule ellipsoid, acute at the apex, glabrous, 10–16 mm. long.

Nom. Jap. *Eizan-sumire, Ezo-sumire, Kakuremino.*

Hab. Japan, mountains.

Remarkable by having the peculiar large leaves after flower.

var. simplicifolia Makino.

Viola chærophylloides forma simplicifolia Makino in Bot. Mag., Tokyo, XIX. (1905), p. 17.

Nom. Jap. *Hitotsuba-ezosumire.*

Hab. Prov. SHIMOTSUKE: Mt. Nikkô (*T. Makino* !).

Viola (Nomimium) **nipponica** Maxim. in Mél. Biol. IX. p. 739, in nota (1876), non Makino.

? *Viola hirta var. japonica* Maxim. l. c. p. 738.

Viola hirta var. japonica Auct. Jap.

Nom. Jap. *Aoi-sumire.*

Hab. Japan.

Common.

Viola (Nomimium) **Savatieri** Makino in Bot. Mag., Tokyo, XVI. (1902), p. 125.

Viola incisa var. acuminata Franch. et Sav. Enum. Pl. Jap. I. p. 41, et II. p. 284; Maxim. in Mél. Biol. IX. p. 720.

Viola Patrinii var. acuminata Makino, l. c. XIX. (1905), p. 73.

Nom. Jap. *Edo-sumire, Ezo-no-sumire, Doraba-sumire, Nokogiri-sumire, Azami-sumire.*

Hab. Japan.

Rare.

var. multifida (Franch. et Sav.) Makino.

Viola incisa β. multifida Franch. et Sav. Enum. Pl. Jap. II. p. 284.

Viola multifida Makino in Bot. Mag., Tokyo, XVI. (1902), p. 125, non Mill. nec Willd.

Viola chrysanthemifolia Makino, ined.

Leaves increasing the size after anthesis; blade attaining 9 cm. long, 7 cm. wide; petiole attaining 21½ cm. long.

Nom. Jap. *Kikuba-sumire.*

Hab. Prov. Musashi: Tokyo, cultivated (*T. Makino* !); Prov. Shinano, spontaneous (*K. Yazawa* !).

Viola (Nomimium) **Iwagawai** Makino, sp. nov.

Acaulescent, small; rhizome erect or ascending, slender, loosely articulated, loosely issueing fibrous delicate white roots, about ½–2¾ cm. long. Leaves small, long-petiolate, few-several-tufted, often spreading, deltoid or depressed-deltoid, obtuse at the apex, truncate or subcordato-truncate and minutely short-subdecurrent to the petiole at the base, 3– rarely 4–crenate on each margin, membranaceous, green and slightly pubescent with white hairs on nerves towards the margin, paler and quite glabrous beneath, 4–9 mm. long, 4–10 mm. broad; veins 2–3 on each side, loose; petiole filiform, glabrous, viridescent, apterous, 1–3⅓ cm. long; stipule about 1½–2½ mm. long, adnate, the free portion subulate. Scape filiform, about 3⅓ cm. long in fruit in my specimens, glabrous, bracteate below the middle; bracts 2, approximate, linear. Sepals lanceolate, attaining about 3 mm. long. Capsule glabrous, about 4 mm. long.

Nom. Jap. *Yakushima-sumire* (nov.).

Hab. Prov. Ôsumi: Isl. Yakushima, shady places on mountains (*T. Makino* ! Sept. 1909).

This species comes near *Viola Tashiroi* Makino of Yaeyama Archipelago, from which it differs by the smaller size, invariably deltoid leaves, and slender and loosely articulated rhizome. I have named this in memory of Mr. Kakunojô Iwagawa, who was in the botanical excursion with me to the Island in September 1909. (*To be continued.*)

Lepidobalanus[*]
Asiae Orientalis.

by

G. Koidzumi.

I. Dispositio Specierum.

1. Folia coriacea sempervirentia (*Ilex*).....*Q. Ilex.*
   Folia decidua (*Diversipilosae* & *Dentatae*).....2
2. Folia subtus tomentosissima 3
   Folia subtus glabra vel pubescentia.....7
3. Folia subtus adpresse tomentosa, supra pilosa, argute serrata; petiolis glabris; cupulae squamis ovatis.....*Q. glandulifera.*
   Folia subtus indumento stellato-tomentoso...4
4. Folia nascentia supra lepidota; petiolis elongatis glabris; cupulae squamis ovatis..*Q. alieana.*
   Folia supra pubescentia vel stellato-pilosa; petiolis brevibus vel nullis, hirsutis; cupulae squamis lanceolatis..... 5
5. Folia supra pubescentia, petiolata, dentata, subtus canescentia; dentibus plerumque acutis .....*Q. nipponica.*
   Folia supra stellato-pilosa.....6
6. Folia sessilia, margine sinuato-undulata .....*Q. dentata.*
   Folia petiolata, crenata, subtus gilvo-tomentosa; petiolis pubescentibus .....*Q. Fabri.*
7. Folia sinuato-crenata; cupulae squamis lanceolatis.....*Q. McCormickii.*
   Cupulae squamis ovatis dorso carinatis.....8

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[*] **Quercus,** *Subgen.* **Lepidobalanus,** Oerst., sensu C. K. Schneider. Ill. Handb. Laubholzk. I, (1906) p. 187.

8. Foliorum nervi secundarii utraque latere 6 (5–7) 9
   Nervi secundarii 7–16 10
9. Folia margine undulata, petiolisque hirsuta .....*Q. Wutaishanica.*
   Folia glabra, 5–7 lobulata .....*Q. liaotungensis.*
10. Folia margine sinuato-crenata, breve petiolata, 7–11 penninervia .....*Q. mongolica.*
   Folia dentato-serrata, petiolata, subtus pubescentia, 12-16 penninervia .....*Q. Griffithii.*
   Folia dentata, sessilia.....11.
11. Folia obtusa 7–11 penninervia, ...*Q. crispula*, var. *manshurica.*
   Folia acuta, vel acuminata, subtus saepe glaucina, 10–15 penninervia .....*Q. crispula.*

II. **Enumeratio Specierum.**

1. **Quercus Ilex,** L. Sp. Pl. (1753) 995.

var. **phyllireoides,** Franch. Jour. d. Bot. (1899) 152.

Q. phyllireoides, A. Gr. Bot. Mem. VI, (1895) 426.

Nom. Jap. *Ubame-gasi, Imame-gasi.*

Distr. Japonia (Nippon australis, Sikoku, Kiusiu); China (Szechuen, Yunnan).

subvar. **crispa,** (Sieb) m.

Q. crispa, Sieb.

Foliis margine valde revolutis, bullato-rugosis.

Nom. Jap. *Biwaba-gasi.*

Hab. hortis culta.

var. **spinosa,** Franch. l.c. 152.

Nom. Jap. *Hiroha-ubamegasi.*

Distr. Formosa; China (Hupeh, Shensi, Kansuh, Szechuen).

var. **acrodonta,** Skan. Jour. Linn. Soc. XXVI. p. 516.

Q. acrodonta, O. Seem. Engl. Bot. Jahrb. XXIII, Beibl. 57, p. 48.

Hab. China (Hupeh, Shensi).

var. **rufescens,** Franch. Jour. d. Bot. 1899, p. 151;—Skan, Jour. Linn. Soc. XXVI. p. 516.

Hab. China (Szechuen, Yunnan).

2. **Quercus dentata,** Thg. Fl. Jap. (1784) 177, Icon. Pl. Jap. dec. V, t. 6, (1794).

Q. obovata, Bge. Enum. Pl. Chin. bor. (1831) 62.

Q. yunnanensis, Franch. Jour. d. Bot. (1899) 146.

Q. dentata, var. *Wrightii,* DC. Prodr. XVI. 2. p. 13.

Nom. Jap. *Kasiwa.*

Distr. Japonia (Yezo ad Formosa), Korea, China.

var. **grandifolia,** m.

Folia circ. 20—30 cm. longa.

Nom. Jap. *Oh-gasiwa.*

Hab. Japonia, Korea.

var. **pinnatifida,** Matsum. Tokyo Bot. Mag. V, (1891) 9.

Q. pinnatifida, Fr. et Sav. Enum. Pl. Jap. I (1875) 445, II (1879) 297.

Nom. Jap. *Hagoromo-gasiwa.*

Hab. Culta.

3. **Quercus nipponica,** Sp. nov.

Species affinis *Q. dentatae,* Thg. ab hoc diversa foliis oblongo-ellipticis, minoribus, apice acutis, acute dentatis, supra pubescentibus; petiolatis; cupulae squamis brevioribus erectis.

Arbor magna; trunco erecto ramoso; ramis patentibus, hornotinis striato-sulcatis cano-tomentosis, vetustioribus mox glabris, cortice nigricante, lenticellis albidis ellipticis adsperse tectis. Folia alterna petiolata; petioli 7–13 mm longi, juventute cano-tomentosi demum hirsuto-tomentosi, semitereti, supra sulcati, post delapsum phyllulen magnam semiorbicularem relinquentes; lamina chartacea vel membranaceo-chartacea, supra primum adpresse pubescentia demum subpunctato-pilosa, subtus cano- vel gilvo- mox sordide stellato-intricato-tomentosa, ambitu oblongo-elliptica rarius ovali-ovata vel obovato-oblonga, usque 15 cm longa 8 cm lata, apice acuta, basi rotundata vel leviter auriculata, margine grosse

dentata ; dentibus acutis, raro obtusis vel obtusissimis; stipulis linearibus elongatis cano-tomentosis caducis. Gemmae ovoideae, obtusae, ex axillis foliorum anni praecedentis, perulatae; perulis plurimis tristiche imbricatis, coriaceis fusescentibus, glabrescentibus. Amenta masculina in inferiore parte ramulorum hornotinorum subfasciculato-congesta, foliis novellis coaetanea; rachibus pendulis circ 13 cm longis cano-tomentosis ; floribus sessilibus praesertim versus basin laxius spicatis; tepalis perigonii lanceolatis villoso-tomentosis. Spica foemina, in axillis foliorum solitaria; pedunculis circ 10 mm longis involuculisque tomentosis; floribus 2–4. Fructus in quavis spica rachi lignescenti incrassati affixi, remotiusculi, alterni, sessiles. Cupula hemisphaerica, 10 mm alta 15 mm lata ; squamae exteriores infimae ovatae, adpressae sensim ad lancealato-lineares acutas erectas transientes, plus minus velutino-tomentosae. Glans oblonga vel cylindracea, vertice velutina rotundata, vel obtusissima, stylis coronata.

Nom. Jap. *Hosoba-gasiwa*, (nov. nom.)

Distr. Nippon (Mutsu, Shinano, Musashi, Suruga).

4. **Quercus Fabri,** Hance, Jour. Linn. Soc. X, (1868) 202, Jour. Bot. (1875) 362, (1882) 294 ; — Forbes et Hemsl. Jour. Linn. Soc. XXVI, 512 ; — Forbes, in Jour. Bot. (1884) 86 ; — Franch. Pl. David. I. 274; — Komarov, Fl. Mansh. II, (1904) 74;—Palib. Consp. Fl. Kor. in Act. Hort. Petr. XVIII. 197 ;— Seemen, in Engl. Bot. Jahrb. XXIX, 289.

Arbor, ramis novellis annotinisque dense pubescentibus, vetustioribus mox glabrescentibus ; cortice cinerascente. Gemmae ovoideae, squamis omnibus late ovatis obtusis, pilosis. Folia chartacea supra stellato-pilosa mox glabra, subtus gilvo-tomentosa, ambitu obovata vel obovato-oblonga, versus basin sensim angustata, apice rotundata, basi rotundata vel oblique obtusissima, margine undulato-crenata; crenis rotundatis utraque margine 7—9 ; lamina usque 15 cm longa 8 cm lata ; petiolis ad 10 mm longis gilvo-tomentosis. Amenta masculina fasciculata, rhachibus gilvo-tomentosis; tepalis perigonii dense pubes-

centribus ; foemina ad apices ramulorum hornotinorum orti, pedunculis gilvo-tomentosis, floribus pauci-spicatis. Cupula late hemisphaerica 2 lin. longa $3\frac{1}{2}$ lin lata, squamis imbricatis lanceolatis obtusis arcte appressis parce tomentellis summis incurvis cupulam non superantibus ; glande oblonga glaberrima 7 lin longa apice tomentosa.

Nom. Jap. *Kara-Kasiwanara* (nov. nom.)

Distr. China (Kiangsu, Shingking, Chekiang, Kiangsi, Hupeh, Szechuen, Shensi, Kwangtung,) ; Manshuria ? , Korea ? .

5. **Quercus glandulifera,** Bl. Mus. Bot. Lugd. Bat. I, (1850) 295.

Q. canescens, Bl. ibid. 296.

Q. urticaefolia, Bl. ibid. 296.

Q. canescens, var. *urticaefolia,* Miq. Ann. Mus. Bot. Lugd. Bat. I, p. 105.

? *Q. Griffithii,* var. *glandulifera,* Fr. Jour. d. Bot. (1899) 149.

Q. urticaefolia, β. brevipetiolata, DC. Prodr. XVI. 2. p. 16.

Nom. Jap. *Ko-nara*

Distr. Japonia ; Korea ; China.

6. **Quercus alieana,** Bl. Mus. Bot. Lugd. Bot. I, (1850) p. 298.

Nom. Jap. *Kasiwa-nara, Nara-gasiwa.*

Distr. Japonia ; Korea ; China ?

var. **pelucida,** Bl. ibid. 298.

Nom. Jap. *Oh-mizunara.*

Hab. Japonia.

7. **Quercus Mc-Cormickii,** Carruthers, in Jour. Linn. Soc. VI (1861) p. 32 ; — Baker et Moore, in Jour. Linn. Soc. XVII (1879) p. 387 ; — DC. Prodr. XVI. 2. p. 14.

Q. dentata, var. *Mc-Cormickii,* Skan, Jour. Linn. Soc. XXVI. 511.

Nom. Jap. *Mansiu-nara* (nov. nom.)

Hab. Tailienwan.

According to the auther's diagnosis, the present species quit differs from *Q. dentata*, Thg. in having glabrous and petiolate leaves.

8. **Quercus Griffithii,** Hook. fil. et Thomps. in DC. Prodr. XVI. 2. p. 14, (1864); — Hook. fil. Fl. Br. Ind. V. 602; — Franch. Jour. d. Bot. (1899) 147; — King, Ann. Bot. Gard. Calc. II. 24, t. 18.

a *Q. alieana*, Bl. differt, ramulis novellis dense pubescentibus, non glabris; foliis juvenilibus supra dense pilosis non furfuraceo-lepidotis, subtus dense pubescentibus non griceo-tomentosis; pedunculis amenti ♂ villosis non glabris.

a *Q. crispula*, Bl. (=*Q. grosseserrata*, Bl.) differt, petiolis elongatis; foliis utraque pagina pubescentibus; ramulis novellis pubescentibus.

Nom. Jap. *Kara-ohnara, Himalaya-ohnara* (nov.)

Distr. Himalaya; China australis.

9. **Quercus crispula,** Bl. Mus. Bot. Lugd. Bat. I, (1850) p. 298; — Matsum. Tokyo Bot. Mag. V, p. 54.

Q. grosseserrata, Bl. ibid. 306.

Q. crispula, var. *grosseserrata*, Miq. Anu. Mus. Bot. Lugd. Bat. I. 104.

Nom. Jap. *Mizu-nara.*

Distr. Japonia (Yezo ad Kiusiu)

var. **sachalinensis,** m.

Q. mongolica, Fr. Schmdt. Reis. Saghal. No. 377.

Folia elliptica vel obovato-elliptica, sessilia vel brevissime petiolata, subtus vix glaucina secus costas petiolisque pubescentia; nervi secundarii utraque latere 9–10.

Nom. Jap. *Yezo-mizunara* (nov.)

Hab. Yezo, Sachalin.

var. **manshurica,** m.

Q. grosseserrata, Komaro. Fl. Mansh. II. 273 (non Bl.)

Folia obovato-oblonga glabra, sessilia, versus basin angustata, grosse dentata, utraque latere 9–11 penninervia.

Nom. Jap. *Korai-mizunara* (nov.)

Hab. Korea, Manshuria.

10. **Quercus mongolica,** Fisch. apud Turcz. in Bull. Soc. Nat. Mosc. (1838) p. 101; — Pall. Fl. Ross. II. p. 3; — Turcz. l.c. XXVII, pt. I, p. 409; — Max. Prim. Fl. Amur. 241; — Regel, Tent. Fl. Uss. No. 434; — Schmd. Reis. Amur. No. 324; — Herder Pl. Radd. in Act. Hort. Petrop. XI. 365; — Korsh. ibid. XII. 388; — DC. Prodr. XVI. 2. p. 14; — Skan in Forb. & Hemsl. Jour. Linn. Soc. XXVI. 518; — Komaro. Fl. Mansh. II. 68; — Carru. Jour. Linn. Soc. VI (1861) 32; — Hance, in Jour. Linn. Soc. X (1869) 482, XIII (1873) 7; — Forb. Jour. Bot. (1884) 86; — Schn. Ill. Handb. Laubh. I, (1906) p. 209.

Q. sessiliflora, var. *mongolica,* Fr. Pl. David. I. 273.

Arbor magna, ramulis novellis glabris; ramis vetustis glabris, cortice canescente vel fusescente, lenticellis orbicularibus albidis adspersis vestitis. Folia juvenilia supra secus costas adpresse villoso-tomentosa, subtus adpresse pubescentia praesertim ad venas canescenti-tomentosa; adulta chartacea utrinque glabra vel tantum subtus ad costas parse barbarta, obovata, obovato-oblonga vel elliptico-oblonga, obtusa, basi leviter cordata vel obtusa interdum subauriculata, margine sinuato-crenata; nervi secundarii in utraque latere plerumque 7, rarius ad 9–12; lamina usque 14 cm longa 8 cm lata; petiolis brevibus 3-6 mm longis interdum subnullis. Amenta ♂ pendula, rhachibus glabriusculis; floribus remotis spicatis, perigonii tepalis lanceolatis villosis. Fructus sessiles ad apices pedunculorum 3–glomerati; cupula hemisphaerica crassa lignosa, intus velutina, extus squamis ovatis dorso distincte carinatis arcte imbricatim vestita. Glans oblonga vel rarius subovoidea brunnea, vertice velutino-tomentosa, latere lineis longitudinalibus striatis percursa.

Nom. Jap. *Mongoli-nara* (nov. nom.)

Hab. China borealis, Manshuria, Korea, Amuria.

11. **Quercus wutaischanica,** Meyr in Fremdlandische Wald- und Parkbaüme für Europa, (1906) p. 504.

Folia *Q. Fabrii,* Hance. similis, sed petiolisque hirsuta. Cupulae squamis ovatis parvis. Ramulus hirsutus. (ex Auth. l.c.)

Nom. Jap. *Ko-Kara-Kasiwanara* (nov.)

Distr. China borealis: Wutaischan (Kansu.)

12. **Quercus liaotungensis,** Sp. nov.

ad *Q. sessili,* Ehrh (=*Q. sessiliflora,* Salisb.) affinis, sed foliis ambitu longe oblongis, minoribus, pinnatim 5–7 lobulatis, sinubus profundioribus; lamina folii utrinque glabra.

Arbor magna, ramis patentibus glabris, dense foliosis, vetustioribus cortice cinerascente, hornotinis pallide fusescente, lenticellis orbicularibus albidis sperse tectis. Folia adulta chartaceo-membranacea glabra, supra viridia, subtus pallidiora, ambitu longe oblonga, pinnatim 5–7 lacerata, apice obtusa, basi leviter cordata; lobuli laciniis oblongis integerrimis apice rotundatis vel obtusissimis, sinubus basi rotundatis; lamina (5–) 7 (–9) cm longa; petiolis brevibus glabris supra leviter sulcatis circ 3–4–6 mm longis. Flores ignoti. Cupula hemisphaerica, squamis ovatis imbricatis; pedunculis fructiferis brevibus circ petiolo duplo longioribus, apice fructibus sessilibus plerumque 3 glomeratis.

Nom. Jap. *Hagoromo-nara* (nov.)

Distr. Liaotung: Tsizan.

13. **Quercus neo-stuxbergii,** Sp. nov.

Q. glanduliferi, Bl simillima, sed foliis ab initio glabris.

Arbor, trunco erecto ramoso; ramis patentibus, costice profunde cinerascente vestitis et lenticellis numerosis orbicularibus prominulis verrucosis; novellis virentibus glabris. Folia per annunm virentia; lamina membranacea glabra, ovato-vel oblanceolato-oblonga, apice obtusa, basi leviter auriculata, margine sinuato-dentata, nervi secundarii in utraque latere circ 11 (10–13) recto-patentes; petiolis circ 5 mm longis glabris. Flores..... Fructus.....

Nom. Jap. *Awo-nara* (nov.)

Hab. Japonia.

(14.) **Quercus** (*Cyclobalanopsis*) **Miyagii**, Sp. nov.

Q. stenophyllae, Mak. et *Q. argentatae*, Korth. affine, sed a primo foliis juvenilibus utrinque argenteo-tomentosis, nervis secundariis arcuato-ascendentibus; cupulis multo majoribus, adultis subpatelliformibus; glandibus multo majoribus; cataphyllis multo longioribus; ab altero cupulis adultis subpatelliformibus glandibusque multo majoribus differt.

Arbor magna, trunco erecto ramoso, circ 40 ped. alto, 2 ped. in diametro. Rami alterni vel subverticillato-congesti, teretes, patentes, dense foliosi, lenticellis orbicularibus albidis prominulis densius tecti; vetustiores glabri cortice nigricante; hornotini fuscescente; novelli glabri. Gemmae ellipsoideae circ 8 mm longae, obtusae, quinquestiche perulatae; perulis ovatis obtusis scariosis superne tenuiter villosis. Folia alterna, petiolata, sempervirentia, patentia; lamina coriacea, juventute utraque pagina seriseo-tomentosa, adulta demum glabra supra viridia subtus glaucina vel argenteo-nivea, ambitu lanceolata rarius ovato-linearioblonga vel ovato-lanceolata, 10–13 cm longa, 3–4 cm lata, apice longe acuminata, basi rotundata vel obtusissima rarius cuneato-acuta, margine integerrima raro sursum argute vel obscuriter serrata; costulis in utraque latere 10–12, arcuato-ascendentibus, subtus leviter prominentibus; petiolis 15–20 mm longis, semiteretibus, supra leviter sulcatis, ab initio glabris. Stipula lutescens cataphylliformis, ad petioli basin inserta, lineari-spathulata, caduca. Flores ignoti. Cupula fructifera lignosa, hemisphaerico-subpatelliformis, 2–3 cm in diametro, 8–10 mm alta, intus velutino-tomentosa, extus cano-velutina; squamis in laminas 6–7 (raro ad 9) annulares concentricas crenatas connatis. Glans matura globosa vel globoso-ovoidea, 3 cm alta 28 mm lata, apice velutino-tomentosa, abrupte apiculata, cupulam multo superans.

Nom. Jap. *Okinawa-urajiro-gasi* (Tasiro.)

Hab. Lutchu: insl. Okinawa; insl. Yayeyama.

I have named this species in memory of Mr. Tetsuo Miyagi, who sent me the valuable materials collected by him.

Notulæ ad Plantas Japoniæ et Koreæ V.

auctore

T. Nakai.

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77) **Salix stipularis** Sm. teste Trautv. in Maxim. Prim. Fl. Amur. p. 243.

S. Opaca Anders. in Herb. Ross. Petrop. ex Herder in Act. Hort. Petrop. XI. p. 428.

Korea: Ham-gyöng: Chinggang 10 VI. 1909 (T. Nakai).

Phyöng-an: Kang-kai 3 VIII. 1911. (Dr. Ræph. G. Mills).

Nom. Jap. Onoe-janagi.

Distr. Japonia. Manshuria, Amur, Baikal, Turkestan et Sibiria orient.

Planta nova ad Floram Koreanam.

78) **Salix daphnoides** Vill. Anders. in DC. Prodr. XVI ii. p. 261. Ledeb. Fl. Ross. III. ii. p. 602. Hook. fil. Fl. Brit. Ind. V. p. 631. Herder in Act. Hort. Petrop. XI. p. 423.

S. acutifolia Kom. Fl. Mansh. II. p. 23. p.p.?

S. præcox Hoppe et Trautv. in Maxim. Prim. Fl. Amur. p. 242. Fr. Schmidt Amg.-Bur. n. 328. Sachal. n. 326.

Nom. Jap. Ezo-janagi.

Korea: Phyöng-an: Kangkai 28 IV. 1911. (Dr. Ræph. G. Mills).

Distr. per temperatas regiones Europæ et Asiæ.

Planta nova ad Floram Koreanam.

79) **Morus alba** L. var. **mongolica** Bureau in DC. Prodr. XVII. (1873) p. 241. Kom. Fl. Mansh. II. p. 92.

Korea: Phyöng-an: Chinnampo. I, X. 1911. (H. Imai).

Distr. Manshuria et Mongolia.

Morus tiliæfolia MAKINO huic appropinquit, sed folia plus tomentosa, serratulæ foliorum non argutæ.

Planta nova ad Floram Koreanam!

80) **Stachys Imaii** NAKAI sp. nov. (Specimina testa tantum dua). Caulis cca. 25 cm. altus quadrangulus recurvato-setulosus simplex v. apice paulum ramosus. Folia sessilia 25–38 mm. longa 9–16 mm. lata, lanceolata subrugosa, supra puberula, subtus dense sericeosetulosa, margine crenato-dentata, dentibus subhomomorphis. Inflorescentia ad apicem caulis spicata 4–7 cm. longa. Flores in quoque fasciculo 2–3, brevissime pedicellati. Calyx anguste-obconica, 5 dentibus, 10 nervis, pubescens. Dentes subæquilongi spinescentes. Flores tubis inclusis bilabiatus purpureus puberulus, labio superiore inferiore breviore apice subtruncato, inferiore trilobato, lobis lateralibus brevissimis, medio maximo et longiore. Stamina 4, inferiora superioribus longiora. Anthera nigra, loculis ellipticis patentibus.

Mores plantæ *Stachyte asperæ* simulantes. sed foliis dense sericeis et foliorum forma exqua statim dignoscenda.

Korea: Phyön-an: monte Ryugakusan 11. VI. 1911. (H. IMAI).

81) **Nasturtium microspermum** DC. Syst. Veg. II. p. 161. et Prodr. I. p. 139. MAXIM. Prim. Fl. Amur. p. 42. FRANCH. Pl. Dav. p. 32. FORBES et HEMSL. in Journ. Linn. Soc. XXIII. p. 40. KOM. Fl. Mansh. II. p. 361.

N. benghalense HANCE in Journ. Linn. Soc. XIII. p. 99. et in Journ. Bot. p. 8.

N. shikokianum FRAN. et SAV. Enum. Pl. Jap. II. p. 277.

Nom. Jap. Shikoku-Inugarashi v. Ko-inugarashi.

Korea: Phyöng-an, ad ripas fluminis Pôtonkang V. 15. 1910. (H. IMAI).

Planta nova ad Floram Koreanam et inter lusum *vegetius* et *macilentum* interstat.

82) **Paralstonia clusiacea** BAILL. in Bull. Soc. Linn. Paris I. (1888) p. 750 et Hist. des Pl. X (1888) p. 185. K. SCHUM. in Engl. Prantl. Nat. Pflanzenfamilien IV. ii (1895) p. 139.

Alstonia shoralis Hattori in Journ. Sci. Coll. Imp. Univ. Tokyo XXIII. art. 10. p. 34.

Nom. Jap. Jarōdo. (Ex Verbis Ingricis 'Yellow Wood' deductum).

Haditat in Bonin (Hahashima). VIII. 8. 1905 (H. Hattori). Specimina fructifera, ibidem III. 1912 (B. Kawate) Sp. florifera.

Secundum Dr. H. Hattori exquo specimina accepi (gratias ago), hæc planta sponte in archipelagine Boninense crescit. Incolæ eas secus litus maris serunt ut insulæ a ventro prohiberentur. Plantæ usque 3 m. attingent et ramosissimæ sunt. Cum ramis aut foliis discerptis, lac (veneniferum ?) manat. Lignum est flavum, ita plantæ ut 'yellow wood' nominatæ sunt. Presentia hujus plantæ Philippinensis in hac archipelagine, credo,* est effectus fluminis marini.

83) **Veronica virginica** L. Sp. Pl. p. 13. Benth. in DC. Prodr. X. p. 464.

Flores arte sessiles ; Corolla alba, carnea v. purpurea.

Hab. America bor.

var. **sibirica** (L.)

V. sibirica L. Sp. Pl. p. 12. Benth. in DC. Prodr. X. p. 464. Ledeb. Fl. Ross. III. p. 229. Maxim. Prim. Fl. Amur. p. 206. Fr. Schmidt Sachal. n. 340. Regel Tent. Fl. Uss. n. 361. Franch. Pl. Dav. p. 223. Korsch. in Act. Hort. Petrop. XII. p. 373. Freyn. Oest. Bot. Zeit. (1902) p. 402. Kom. Fl. Mansh. III. p. 425.

V. virginica (non L.) Hemsl. in Journ. Linn. Soc. XXVI. p. 200. Palib. Consp. Fl. Kor. II. p. 21. Thunb. Fl. Jap. p. 20. Miq. Prol. Fl. Jap. p. 50. Fran. et Sav. Enum. Pl. Jap. I. p. 347. Nakai Fl. Kor. II. p. 127.

Nom. Jap. Ezo-Kukaisō (nov.)

Flores sessiles v. subsessiles. Pedicelli semper calyce breviores. Corolla cærulea v. alba.

(In Jeso hæc varietas vulgaris est.)

Hab. China, Manshuria, Dahuria, Amur, Korea, Sachalin et Jeso.

var. **japonica** m.

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* Vide, Hattori in Journ. Coll. Sci. Imp. Univ. Tokyo XXIII. art. 10. p. 55.

Flores pedicellati. Pedicelli calycem æquantes v. superantes. Corolla cærulea v. alba.

Nom. Jap. Kukaisō.

Hab. Nippon tota, Shikoku tota et in finitima australe Jesoensis.

Veronica japonica Steudel ex Sieb. et Zucc. Fl. Jap. Fam. Nat. n. 489. Walp. Ann. I. p. 535. staminibus inclusis, quæ a multis auctoribus cum *V. virginica* conjuncta, est mihi ignota.

Observations on the Flora of Japan.

(*Continued from p. 158.*)

By

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CORRECTIONS AND ADDITION.

Page 81, line 14, *for* "Bet. Reg," *read*: Bot. Reg.
— 153, line 17 from bottom, *after* "larger" *add*: sized.
— 154, line 10, *for* "$1\frac{1}{5}$" *read*: $1\frac{2}{5}$.
— 154, line 17 from bottom, *for* "*subyar.*" *read*: *subvar.*
— 155, line 9, *for* "crenato-dentata" *read*: crenato-dentate.
— 156, line 6 from bottom, *for* "squal" *read*: equal.
— 157, line 3, *for* "obtues" *read*: obtuse.
— 157, line 13, for "**var.**" *read*: **subvar.**

Viola (Chamæmelanium) **uniflora** Linn. Sp. Pl. p. 936; Schult. Syst. Veg. V. p. 378; DC. Prodr. I. p. 301; Ledeb. Fl. Alt. I. p. 262, et Fl. Ross. I. p. 255; Regel, Pl. Radd. I. p. 254; Maxim. in Mél. Biol. IX. p. 751; Enum. Mongol. p. 81; Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 56; Palib. Consp. Fl. Kor. I. p. 35; Komar. Fl. Manshur. III. p. 71; Nakai, Fl. Kor. I. (1909), p. 64.

forma glabricapsula.

Viola uniflora b. Capsula glabra Maxim. in Mél. Biol. IX. p. 752; Franch. et Sav. Enum. Pl. Jap. II. p. 648.

Viola canadensis var. sitchensis Miq. Prol. Fl. Jap. p. 86. nec Linn. nec Bong., excl. syn.

Nom. Jap. *Ichige-kisumire, Ichige-sumire.*

Hab. Prov. Hôki: Mt. Daisen (*T. Makino*! Aug. 20, 1906); Prov. Higo: Mt. Fukaba (*T. Noguchi*! April 26, 1907); Kiusiu (*Z. Tashiro*!).

Viola (Nomimium) **Kusanoana** Makino, sp. nov.

Caulescent, attaining about 24 cm. in height; rhizome woody, repent or ascending, rooting, covered with old stipules above. Stems tufted, erect or ascending, leafy throughout, slender, glabrous, bay-brown when dried. Leaves radical and cauline, orbiculato-ovate, oval-orbiculate, ovato-reniform or sometimes reniform, obtuse or rounded at the apex, cordate at the base, depressed-crenate, membranaceous, glabrous but usually very slightly puberulent on nerves above or on both surfaces, densely punctate with minute brown dots on both surfaces when dried, 2–5 cm. long, $2\frac{1}{4}$–$5\frac{1}{2}$ cm. broad, lower leaves often slightly turned into reddish colour when dried; radical and lower leaves long-petiolate and the superior ones shorter-petiolate and the apical ones very shortly so; veins 4–5 on each side, arcuate above, the lowest one with a few main veinlets on the outer side; petiole glabrous, attaining about 10 cm. long in the radical leaves but attaining about 8 cm. long in the cauline leaves; stipules ovato-lanceolate, subulato-lancedate, or subulato-linear, acuminate, sub-densely fimbriate with erect-patent glandular-tipped teeth, but rather loosely fimbriate in the upper ones, membranaceous, glabrous, about 1–2 cm. long. Flowers cauline (not radical), exserted upon the leaves in the superior ones, long-peduncled, cæruleo-violascent, about $1\frac{1}{4}$–$2\frac{1}{2}$ cm. across; peduncle very slender, glabrous, or puberulent above, attaining about 14 cm. long, bracteate near the flower or above the middle; bracts 2, opposite or approximate, subulate or subulato-linear, pauci-glanduloso-ciliated at the basal margin, glabrous, 5–6 mm. long. Sepals glabrous but sometimes puberulent at the base, green, subulato-lanceolate or linear-lanceolate, acuminate, entire,

narrowly hyaline on margin, 3–nerved, without any veinlet, 6–10½ mm. long including the basal lobes; basal lobes short, semiorbicular to depressed-cuneate, few-crenato-dentate or nearly so, about 1–1½ mm. long, those of the inner lateral 2 smaller, ovato-elleptical, ovato-orbiculate, or ovato-deltoid, obtuse, about ½–1 mm. long. Petals: upper 2 oval-elliptical or elliptical, rounded or rarely emarginate at the apex, attenuated into a subunguiculate or cuneate base, 13–16 mm. long or rarely about 9½ mm. long, 7–9 mm. or rarely 6 mm. broad; lateral 2 often very slightly longer than the upper ones, oval-elliptical or elliptical or rarely spathulato-oblong, rounded or rarely emarginate at the apex, cuneately attenuated at the base, beardless, 13–17 mm. or rarely 10 mm. long, 7–9 mm. or rarely 5 mm. broad; lower one broadly obovate, cuneato-obovate, obovato-orbicular, or rarely subspathulato-oblong, rounded-subemarginate at the apex, shortly or moderately cuneate towards the base, 14–16 mm. or rarely 10 mm. long, 7½–10 mm. or rarely 5 mm. broad; spur straight or scarcely curved above, or sometimes hardly curved at the end, rounded-obtuse at apex, cylindrical or cylindrical-oblong, glabrous, 4–7½ mm. long. Stamens 5; anther sesslie or subsessile, elliptical, 1½–2½ mm. long; connective-tip ovato-oval, ovato-elliptical, or oval, rounded-obtuse to cuspidato-acute, 1½–2 mm. long; appendages falcately linear, obtuse-tipped, 4–5 mm. long. Ovary ovoid, glabrous, 2–3 mm. long; style slightly geniculate at the base, equal to or longer than the ovary, subclavately enlarged above, glabrous, 3–3½ mm. long; stigma oblique, hardly recurved, not emarginate.

Nom. Jap. *Ô-tachitsubosumire* (nov.).

Hab. Prov. Uzen: Mt. Kimbu (*S. Ishidzuka*! herb. Sc. Coll. Imp. Univ. Tokyo); Prov. Mutsu: Aomori (*N. Kinashi*! herb. ibid. June 1901), Mt. Hashikami (*Y. Yamasaki*! May 1903); Prov. Iwashiro: Inawashiro in Aidzu (*G. Nakahara*! herb. ibid. June 3, 1904), Mt. Adzuma (*G. Nakahara*! herb. ibid. May 8, 1904); Prov. Ishikari in Hokkaidô: Satporo (*K. Kokuma*!); Prov. Idzumo: Ôba-mura in Yatsuka-gôri (*J. Mihara*! April 28, 1905, *forma micrantha*).

A common species in the northern Japan. It is larger than *Viola grypoceras* A. Gray, having the broader leaves, and this plant usually turns slightly reddish when dry. I have named this species in honour of Prof. Shunsuke Kusano of the Agricultural College, Imperial University of Tokyo.

Ajuga bastarda Makino. = *A. decumbens* Thunb. × *A. yezoensis* Maxim.

Stem decumbent and rooting below, but erect or ascending above and attaining about 8 cm. in height, loosely cæspitose, patently pilose with pale hairs, purpurascent; roots fibrous, long, pallid, with fine rootlets. Leaves petiolate, opposite and the pairs remotely placed, erect-patent or spreading, oblong-oblanceolate or oblong, obtuse or acutish at the apex, cuneately attenuated at the base, coarsely and irregularly sinuato-dentate, ciliated, green and thinly pubescent and purpurascent along the midrib above, green and shaded with purpurascent colour and thinly pubescent on nerves beneath, subflaccidly herbaceous, 2–5 cm. long, 1–2 cm. broad; petiole semiterete, flatly grooved in front, pilose with pale and patent hairs, $\frac{2}{3}$–2 cm. long. Verticillasters axillary, sessile, 1–3-flowered. Flowers very shortly pedicellate; pedicel 1–2 mm. long, purpurascent. Calyx campanulate, about 5–6 mm. long, patently pilose with pale hairs, 5-fid, purplish-viridescent, persistent; tube obconical, slightly shorter than the lobes, 2–$2\frac{1}{2}$ mm. long; lobes subulate, acuminate. Corolla much exserted, about 7 mm. long; upper lip very short, emarginate; lower lip large, 3-parted with acute sinuses, lateral lobes patent, oblong-lanceolate, acute, midlobe much broader, square-cuneate, truncato-emarginate with a minute projection in the sinus at the apex, violascent; tube long, slender, abruptly enlarged at the apical portion, puberulent dorsally.

Nom. Jap. *Kiran-nishikigoromo* (nov.).

Hab. Prov. Musashi: Mt. Takao (*T. Makino*! May 5, 1912).

This bastard is rare. The stem and the colour of flowers resemble those of *Ajuga decumbens* Thunb. and the

form tint and texture of leaves are like those of *A. yezoensis* Maxim. I have collected this in the above quoted locality, where *A. yezoensis* Maxim. was abundantly growing.

Prunus Kanzakura Makino, nom. nov. (Fig. XIII.)

Prunus pseudo-Cerasus α. Jamasakura a. glabra forma præcox Makino in Bot. Mag., Tokyo, XXII. (1908), pp. 98, 113.

Drupe subovoid-sphærical, about 12 mm. in diameter, purplish-black when mature.

Nom. Jap. *Kan-zakura*.

Hab. Japan, cultivated (*T. Makino*!).

An early flowering species, thence the name of *Kanzakura* means a winter Cherry.

Fig. XIII.

Prunus serrulata Lindl. *α.* **spontanea** (Maxim.) Makino, **subvar.** *α.* **glabra** Makino.

forma humilis Makino.

Prunus pseudo-Cerasus var. humilis Makino in Bot. Mag, Tokyo, VI. (1892), p. 52.

Prunus pseudo-Cerasus α. spontanea subvar. humilis Makino, l. c. XX. (1906), p. 44.

Prunus pseudo-Cerasus var. α. Jamasakura subvar. a. glabra forma humilis Makino, l. c. XXII. (1908), p. 98.

Nom. Jap. *Wakaki-no-sakura.*

Hab. Prov. Tosa: Ogawa and Sakawa, cultivated (*T. Makino*!).

The origin of this form is evidently traced to '*Jamasakura*' (=*P. serrulata* Lindl. *α. spontanea* Makino, *subvar. a. glabra* Makino).

Oxalis corniculata Linn. Sp. Pl. p. 435.

forma erecta Makino in Iinuma, Sômoku-Dzusetsu, ed. 3, II. (1910), p. 60.

Oxalis stricta Maxim. in litt.; Matsum. Shokubutsu-Mei-i (1895), p. 201, n. 2179, non Linn.

Stem erect from the creeping rhizome, slender, attaining about 30 cm. in height. Leaves often larger; leaflet attaining 21 mm. long, 26 mm. broad.

Nom. Jap. *Tachi-katabami.*

Hab. Japan.

The intermediate forms connecting this and the type are often met with.

Eutrema tenuis (Miq.) Makino, nom. nov.

Nasturtium? tenue Miq. Prol. Fl. Jap. p. 3; Franch. et Sav. Enum. Pl. Jap. I. p. 32.

Cardamine bracteata S. Moore in Journ. Bot. (1878), p. 130.

Eutrema hederæfolia Franch. et Sav. Enum. Pl. Jap. II. p. 283; Boiss. in Bull. Herb. Boiss. (1899), p. 794.

Nom. Jap. *Yuri-wasabi* (Lily-bulb Eutrema).

Hab. Japan, mountains.

The base of the petiole is frequently very much carnose and squamiform.

Athyrium niponicum (Mett.) Hance in Journ. Linn. Soc. XIII. (1873), p. 92.

Asplenium niponicum Mett. in Ann. Mus. Bot. Lugd.-Batav. II. (1866), p. 240.

var. metallicum Makino, var. nov.

Frond: rachis virid-violascent; pinnæ pale and with the violascent midrib above, light green and with the darkish-viridescent midrib beneath; pinnules darkish in the lower ones, light violaceous in the midrib above and darkish-violascent beneath.

Nom. Jap. *Nishiki-shida.*

Hab. Japan.

Dianthus kiusiana Makino, sp. nov.

Perennial, glabrous, loosely or densely cæspitose. Rhizome short or elongate, usually erect, woody, often stout, frequently ramose with ascending branches; roots elongate, ramose, with short rootlets. Stems few to numerous, erect and ascending or declinato-ascending, often decumbent at the base, simple or ramose at the base, slender, terete, glabrous, densely foliiferous below and passing into a flowering stem above, usually densely or laxly provided with the basal portion of the old petioles or often also the old midrib, about 7–50 cm. long; nodes approximate or remote, somewhat prominent; internodes straight. Leaves usually dense, opposite, spreading or erect-patent, oblanceolate, spathulato-oblong, or oblong, cuneate below and further often attenuated to a short or long petiole, which is shortly connate at base, acute and recurved at apex, entire, ciliated with patent hairs, thickish, green above, light green beneath, shining on both surfaces, subtriplinerved, about 1–8 cm. long, $\frac{1}{2}$–$1\frac{3}{4}$ cm. wide, gradually decreasing in size towards the top of the stem, rosulate at the summit of the sterile stem; midrib carinate beneath, sulcate above; veins inconspicuous. Cyme 1–submany-flowered, with usually alternate or rarely opposite peduncles, which are erect or erect-patent; bracts small, subulate, very acuminate, scarious below on margins. Flower shortly pedicallate, $2\frac{1}{3}$–$2\frac{1}{2}$ cm. across, purple but white and variegated towards the margin, deeper-purple towards the throat and with very deep purple 3-spots, which

are longitudinally linear-oblong and placed at the outside of the deeper portion of colour towards the throat, paler on the under surface; pedicel usually shorter than the calyx, viridescent; bracteoles 4, close, opposite, adpressed to the basal portion of the calyx, viridescent but scarious on the margin, abruptly attenuato-acuminate, very minutely short-ciliolated, very slightly connate at the base, those of the lower pair oval-ovate, 5–7 mm. long, those of the upper pair somewhat larger, elliptical-oblong, 8–9 mm. long. Calyx straight, erect, tubular, cylindrical, about 2 cm. long, $3\frac{1}{2}$ mm. across in flower but $4\frac{1}{2}$ mm. across in fruit, viridescent but often slightly shaded with purple, finely substriate in fresh, many-nerved; lobes 5, erect, deltoid-subulate, or ovately deltoid-subulate, acuminate, scarious and ciliated on margin, about 5–6 mm. long. Petals 5, long-unguiculate; lamina horizontally patent, broadly cuneiform, subemarginate, wide-rounded and eroso-crenulated with short obtuse or acutish irregular deltoid or short-broad-ovate teeth in front margin, entire otherwise, 10–12 mm. long, 10–13 mm. wide, thinly pilose at the throat; unguis linear, gradually attenuated below, entire and not ciliated, white shaded with light green, longer than the lamina, slightly carinate dorsally and longitudinally ridged ventrally. Stamens 10, slightly exserted, about 18 mm. long; filament white, filiform, glabrous; anther linear-oblong, obtuse at the apex, bifid at the base, purplish-cæruleous; pollen cæruleous. Styles 2, slightly exserted, somewhat higher than the stemens, filiform, glabrous, pubescent and purplish on the stigmatose side. Ovary straight, cylindrical, glabrous, smooth, obtuse at the apex, about $5\frac{1}{2}$ mm. long; gynophore short, about 2-$2\frac{1}{2}$ mm. long. Capsule cylindrical, enclosing with the persistent calyx, very slightly exserted, about 2 cm. long, coriaceous, shortly dehiscent into 5–valves at the top. Seeds many, black, compressed, obovato-oval, 2–$2\frac{1}{2}$ mm. long.

Nom. Jap. *Hime-hamanadeshiko* (nov.).

Hab. Prov. Ôsumi: Shimadomari (*T. Makino*! Aug. 26, 1910), Konejime (*T. Makino*! Aug. 28, 1910).

A littoral species.

Phyllospadix Scouleri Hook. Fl. Bor.-Amer. II. (1840), p. 171, tab. 186; Rupr. in Mém. Acad. St.-Pétersb. Sc. Nat. VII. (1852), p. 58, tab. 1–2; Ascherson in Linnæa, XXXV. (1867–68), p. 169; Wats. Bot. Californ. II. (1880), p. 192; Aschers. in Engl. et Prantl, Nat. Pfl.-Fam. II. 1 (1889), p. 204, fig. 157; Morong in Mem. Torr. Bot. Club, III. 2 (1893), p. 65, tab. 73, et 74, fig. 1–2; Makino in Bot. Mag., Tokyo, XIII. (1899), p. 269; Matsum. Ind. Pl. Jap. II. 1 (1905), p. 24; Aschers. et Græbn. Potamoget. in Engler's Pfl.-Reich. (1907), p. 36, fig. 10.

Leaves 5–nerved; old fibres grey-brown.

Nom. Jap. *Suga-mo*, *Umi-suge*, *Gomo-kusa*, *Hama-kusa* (all after Yoshio Tanaka), *Gomo*.

Hab. Prov. Rikuchû: Kamaishi (*Moriyoshi Kawarada*! May 1886, communic. *Yoshio Tanaka*); Prov. Ishikari in Hokkaidô; Môrai (*K. Miyabe*! herb. Sc. Coll. Imp. Univ. Tokyo, June 1, 1897; *T. Kawakami*! June 2, 1897); Prov. Kitami in Hokkaidô; Riishiri (*T. Makino*! Aug. 1903); Prov. Ugo (*K. Yendô*; Sept. 1903); Prov. Rikuzen: Shiogama (*T. Watanabe*! Aug. 1905).

(Distrib.) North America. Asia: Chefoo in China (*Yoshi Itô*! Sept. 25, 1897, comm. *Tokutarô Itô*).

A species very closely allied to *Phyllospadix japonica* Makino, which has the black old fibres, and 3–nerved leaves. I have also got the specimens from the prov. Rikuzen and Rikuchû, through the kindness of Mr. Yoshio Tanaka, to whom I am very much obliged.

Musa liukiuensis (Matsum.) Makino in Bot. Mag., Tokyo, XIV. (1900), p. 141. (With Photograph.)

Musa sapientum var. liukiuensis Matsum. in Bot. Mag., Tokyo, XI. (1897), p. 69, et Ind. Pl. Jap. I. 1 (1903), p. 230.

Trunks cæspitose, cylindrical, attaining about 15 cm. in diameter. Leaves glaucous beneath. Rachis (of the spike) terete, glabrous, light green. Bracts broadly ovate to narrowly ovate, rounded-obtuse, glabrous, reddish-purple, white-pruinous. Male flower: perianth pale-yellowish, deeper

Musa liukiuensis (*Matsum.*) *Makino.*

coloured towards the apex, both edges and back very light reddish-purple longitudinally, purplish in the connected portion with the ovary; nectariferous petal subpellucid and pale. Stamens pale-yellow, connective also so; pollen whitish. Style white and scarcely yellowish; stigma subfulvous. Ovary pale. Fruit (mature) baccate, straight or hardly arcuate, cylindrico-fusiform, 3–5-gonous, cuneately short-attenuated below, shortly stipitate, shortly attenuated towards the top which is truncate, smooth, glabrous, light green and subglaucous; young ones obovato-cylindrical, attenuated towards the base, angulate, pale-greenish, glaucous, $5\frac{1}{2}$–9 cm. long, $1\frac{2}{3}$–3 cm. across. Seeds numerous, subangulato-globose, black, muricate, 5 mm. in diameter; funicle short and stout.

Nom. Jap. *Ito-bashô, Ryûkyû-bashô.*

Hab. Amami-Ôshima (*K. Nagai*!); Prov. Satsuma: Kagoshima, cult. (*T. Makino*! Sept. 1909); Prov. Ôsumi: Isl. Yakushima (*T. Makino*! Sept. 1909).

So-called '*Bashô-fu*', a sort of cloth, meaning a Musa Cloth, is made of the refined fibres of the young petioles. The accompanied photograph is from the plant cultivated in Yamagawa, prov. Satsuma, Aug. 1910.

Cucurbita moschata Duchesne, ex Poir. in Dict. Sc. Nat. XI. (1818), p. 234; Ser. in DC. Prodr. III. p. 317; Naud. in Ann. Sc. Nat. Ser. 4, VI. p. 41, tab. 2, B. et XII. p. 84; Cogn. in DC. Monogr. Phanerog. III. p. 546.

var. melonæformis (Carr.) Makino.

Cucurbita melonæformis Carr. in Rev. Hortic. (1880), pp. 137, 431; Nichols. Ill. Dict. Gard. II. p. 87.

Cucurbita Pepo var. melonæformis Makino in Bot. Mag., Tokyo, XXII. (1908), p. 170.

Nom. Jap. *Bôbura, Bôbuna, Bobura, Bôfura, Bofura, Kikuza-no-tônasu, Satsuma, Nangwa.*

Nom. Chin. 南瓜

Hab. Japan, widely cultivated.

Commonly this is called by the erroneous names of *Tô-nasu*

and *Kabocha*, which ought to be the names of the next variety *Toonas*.

var. Toonas Makino.

Cucurbita Pepo var. Toonas Makino, l. c.

Nom. Jap. *Tô-nasu, Kabocha, Tô-nasubi, Kabocha-bôbura, Nankin-bôbura, Hyûga-uri, Ban-nangwa.*

Nom. Chin. 番南瓜

Hab. Japan, cultivated.

Less common than the preceding variety. It is said that this variety was imported from Cambodia to this country, and from this fact the popular name of *Kabocha* is derived.

Aristolochia contorta Bunge, Enum. Pl. Chin. Bor. p. 58, n. 328; Duchartre in DC. Prodr. XV. 1, p. 488; Maxim. Prim. Fl. Amur. p. 238, et Suppl. 1, p. 477; Hance in Journ. Bot. (1873), p. 76; Franch. Pl. David. I. p. 257; Forbes et Hemsl. in Journ. Linn. Soc. XXVI. p. 361; Komar. Fl. Mansh. II. p. 111; Nakai, Fl. Kor. II. (1911), p. 176.

Aristolochia nipponica Makino in Bot. Mag., Tokyo, XXIV. (1910), p. 125.

Stem dextrorse; branchlets terete, obscurely substriate, glabrous, green. Leaves green above, subglaucous beneath, quite glabrous; veins and main veinlets prominent beneath, attaining 10 cm. long, 9½ cm. broad; petiole glabrous, yellowish-viridescent, attaining 7 cm. in length. Fruit (Fig. XIV.) pendulous, ovoid to ellipsoid, truncato-rounded at the apex, rounded at the base, smooth, glabrous, shallowly 6–sulcate and

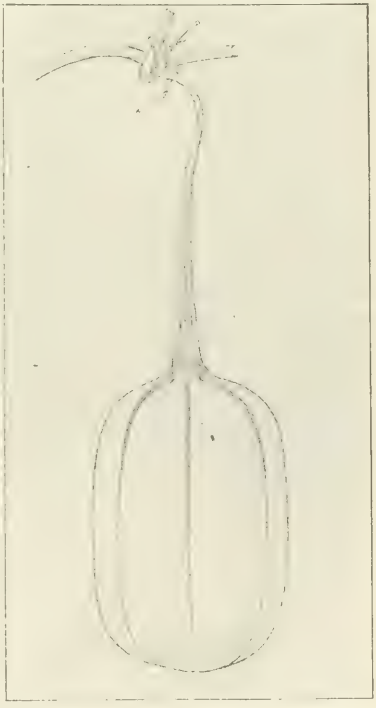

Fig. XIV.

1-nerved between them, 34–50 mm. long, 25–32 mm. across, green, at length dehiscing to 6-carpels through the grooves from the base; carpels rather thin; dissepiments thin but sub-crustaceous and crossly loosely nerved. Seeds numerous, horizontally close-arranged, flattened, glabrous, dark-castaneous, widely marginate with a thick transversely subdeltoid light fuliginous wing with obtuse lateral angles and an acutish basal point, about 5–6 mm. wide, covered with a whitish thin soft loosely subpunctulate coat on the under surface; pedicel gracile, green, glabrous, then divided into several fibres, $2\frac{1}{2}$–4 cm. long.

Nom. Jap. *Maruba-no-umanosuzukusa.*

Hab. Prov. Idzumo: Iwasaka-mura in Yatsuka-gôri (*K. Hirata*! Aug. 24, 1910).

New to the Flora of Japan. My thanks are due to the kindness of Mr. Komatarô Hirata of the Girl's Normal School in Shimane Prefecture, who sent me the fresh, dry, and formalin specimens.

Salvia Ranzaniana Makino, nom. nov.

Salvia japonica δ. pumila Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 372, et II. (1879), p. 463; Makino in Bot. Mag., Tokyo, XI. (1897), p. 281 (Jap.), et XV. (1901), p. 110; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 548.

Salvia chinensis var. β. pumila Makino, l. c. XXVI. (1912), p. 81, fig. 8, b.

Nom. Jap. *Haru-no-tamurasô* (Ranzan Ono, Honzô-Kômoku-Keimô, vol. XII.).

Hab. Prov. Tosa (*T. Makino*!).

(*To be continued.*)

Cyperaceæ-Cyperinæ Japono-Coreanæ.

auctore

T. Nakai.

Conspectus generum.

A. Styli trifidi. Spiculæ ∞–flores vulgo elongatæ, glumæ basilares vacuæ 1–6. Nux trigona.
   a. Glumæ deciduæ. Rhachilla non articulata.....*Cyperus* L.
   b. Glumæ persistentes ie. cum rhachillis affixæ.
      α. Spiculæ praeter infimas duas vacuas totæ conjunctæ deciduæ, ita rhachilla tantum supra glumam II. vacuam articulata.....*Mariscus* Vahl.
      β. Rhachilla tota articulata ; ie gluma quæque decidua unum segmentum rhachilli portans....*Torulinium* Desv.

B. Styli bifidi. Spiculæ 1-∞ floræ.
   a. Spiculæ a dorso compressæ ∞ floræ. Nux a dorso compressa.....*Juncellus* Griseb.
   b. Spiculæ a latere compressæ.
      α. Spiculæ ∞ floræ.....*Pycreus* Beauv.
      β. Spiculæ 2 floræ. Unus flos hermaphroditus, alius masculus.....*Kyllingia* Rottb.

Tribus *Cyperinæ* ab aliis tribus differt, glumis spiculæ distichis, bracteis nullis. 12 genera continent, sed sex supra citata in nostris regionibus crescent.

Gn. I. **Cyperus**, L.

L. Sp. Pl. p. 66. Kunth Enum. II. p. 2–115. p.p. Steudel Syn. II. p. 2–59. p.p.

Cyperus Cyperus Endl. Gen. Pl. p. 119.

Cyperus sect. *Eucyperus* Benth. et Hook. fil. Gen. Pl. III. p. 1044. Pax in Engl.-Prantl. Nat. Pflanzenfamilien II. ii p. 107.

Glumæ deciduæ. Rhachilla non articulata. Styli trifidi. Nux trigona.

Subgen. I. *Rhizomati*, m.

Planta a rhizomate innovatione repente perennis. Rhizomata lignosa v. subherbacea., apice bulbos tunicatos exquis caules evoluti portant, v. ad basin caulis tantum incrassata.

Sect. 1. *Haspani* (Kunth) m.

Haspani, Kunth Enum. II. p. 34 p.p. Boeck. in Linnæa XXXV. p. 573 p.p.

Difformis C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 600 p.p.

Rhizoma repense. Caulis distantes v. approximatus. Umbella vulgo bis v. ter umbellulata. (Sp. 1.)

Cyperus Haspan L. Sp. Pl. (ed. II.) p. 66. p.p. Kunth Enum. II. p. 24. Benth. Fl. Hongk. p. 396 et Fl. Austr. VII. p. 270. Roxb. Fl. Ind. I. p. 210. Boeck. in Journ. Linn. Soc. XXXV. p. 574 p.p. C. B. Clark in Journ. Linn. Soc. XX p. 287. XXI. p. 119. XXXVI. p. 213 et in Hook. fil. Fl. Brit. Ind VI. p. 600. Diels in Engl. Bot. Jahrb. XXIX p. 227. Matsum. Ind. Pl. Jap. II. p. 201.

Caulis 1–2 pedalis. Folia radicalia elongata glaberrima. Caulis semi-alato-trianglaris. Folia involucrata elongata. Spiculæ 5–9 mm. longæ. Glumæ 1.8 mm. longæ.

Nom. Jap. Ko-aze-kajatsuri. v. Midzu-hanabi.

Hab. Nippon medius et australis, Shikoku, Kiusiu et insula Quelpaert.

Distr. Fere per totam regionem temperatam et tropicam.

Sect. 2. *Brevifoliati* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 611.

Rhizoma repense lignosum robustius. Caulis basi non bulbosus. Folia brevia. Inflorescentia bis-ter umbellata. Spiculæ lineares. (Sp. 1.).

Cyperus malaccensis Lamark Ill. I. (1791) p. 146. Kunth Enum, II. p. 74. Bœck. in Linnæa XXXV. p. 603. C. B. Clark in Journ. Linn. Soc. XXI. p. 147, XXXVI. p. 214. et in Hook. fil. Fl. Brit. Ind. VI. p. 608. Matsum. Ind. Pl. Jap. II. p. 142.

Cyp. malaccensis v. *brevifolia* Boeck. in Linnæa I. p. 459. Fran. et Sav. Enum. Pl. Jap. II. p. 539.

Cyp. odoratus L. Sp. Pl. (ed. II.) p. 68 p.p.

Cyp. Fortunei Steud. Syn. II. p. 21.

Cyp. spaniophyllus Steud. l.c.

Caulis elatus præter basin aphyllus. Spiculae 4–15 mm. longæ corymbosæ. Corymbus bis umbellatus. Squamæ 2 mm. longæ.

Nom. Jap. Shichitō.

Hab. Shikoku, Kiusiu et Linkiu.

Distr. Australia, Persia, India, China, Philippin et Formosa.

Sect. 3. *Pilosi* C. B. Clark in Hook. fil. Fl. Brit. Ind VI. p. 607.
Proceri Kunth Enum. II. p. 72. p.p.

Rhizoma tenue vix lignosum. Caulis basi valde incrassatus sed non bulboso-tunicatus. Folia elongata. Spiculæ longe-spicatæ. Spicæ 1–2 umbellulatæ Rhachilla pilosa (Sp. 2).

Gluma apice albo-marginata, *dorso vix viridis, rotundata badia* v. *fusco-rubescens* 2.5 *mm. longa* dorso 5 nerviis sed nervi laterales breves. *Spiculae 12–20 mm. longæ* 2.5–3 mm. latæ spicatim dispositæ. Spicæ umbellatæ. Styli valde exerti. Folia supra scabra. Rhachilla pilosa.

Cyperus Makinoi Nakai sp. nov.

Cyp. marginellus (non Nees) Makino in Tokyo Bot. Mag. IV. (1890) p. 453.

Cyp. pilosus Matsum. Ind. Pl. Jap. II. p. 142. pp.

A *Cyp. piloso* differt, Stylis elongatis valde exertis, nuce et glumis majoribus, glumæ nervis lateralibus brevioribus.

A *Cyp. procero* differt, glumis minoribus dorso 5 nerviis (non 9–11 nerviis.)

Nom. Jap. Ushi-gajatsuri.

Hab. Shikoku.

Planta endemica.

Gluma apice albo-marginata apice acuta, *dorso viridis, badia, 2 mm. longa,* 5 nerviis, nervis elongatis. *Spiculæ 7–12 mm. longæ* spicato-dispositæ, semel v. bis umbellulata. Caulis 2–4 pedalis robustus.

Cyperus pilosus Vahl. Enum. II. p. 354. Kunth Enum. II. p. 80. Bœck. in Linnæa XXXV. p. 589. Benth. Fl. Hongk. p. 387. C. B. Clark in Journ. Linn. Soc. XXI. p. 148. XXXVI. p. 218 et in Hook. fil. Fl. Brit. Ind. VI. p. 609. Diels in Engl. Bot. Jahrb. XXIX. p. 227.

Cyp. marginellus Nees in Wight Contrib. p. 83. et in Hook. et Arn. Bot. Beech. Voy. p. 222. Kunth Enum. II. p. 755. Miq. Prol. Fl. Jap. p. 73.

Cyp. pauciflorus Steud. Syn. II. p. 14.

Cyp. piptolepis Steud. Syn. II. p. 40.

Cyp. subalatus Steud. Syn. II. p. 31.

Cyp. truncatus Fran. et Sav. Enum. Pl. Jap. II. p. 105 (non Turcz.).

Cyp. Griffithianus Boeck. in Linnæa XXXV. p. 601.

Cyp. honestus Kunth Enum. II. p. 74.

Nom. Jap. Oni-gajatsuri.

Hab. Nippon medius et austr., Shikoku, Kiusiu, et Liukiu.

Distr. Africa, India, Burma, Australia, China, Malaya, Philippin et Formosa.

Subgen. II. *Cæspitosi* m.

Radix annua, Caulis cæspitosus v. simplex.

Sect. 4. *Pseudo-Haspani* m.

Haspani Kunth Enum. II. p. 34 p.p. Bœck. in Linnæa XXXV. p.p. 573.

Compressi Kunth Enum. II. p. 23. p.p. Bœck. in Linnæa XXXV. p. 505 p.p. C. B. Clark in Hook. fl. Fl. Brit. Ind. VI. p. 605. p.p.

Umbella vulgo bis v. ter umbellulata.

Subsect. 1. *Flavidi* m.

Gluma parva dorso inconspicue carinata, rostro vix producto. (Sp. 1).

Caulis humilis, Radii umbellæ elongati, caulibus subæquilongis. Gluma 1 mm. vix attingens fuscens. Folia involucrata 2–3 longissima radium longissimum superantia.

Cyperus flavidus Retz. Obs. V. p. 13. Roxb. Fl. Ind. I. p. 200. C. B. Clark in Journ. Linn. Soc. XX. p. 287. XXI. p. 122. XXV. p. 81. et in Hook. fil. Fl. Brit. Ind. VI. p. 601. Makino in Tokyo Bot. Mag. XIX. (1905). p. 144.

Cyp. Haspan Bœck. in Linnæa XXXV. p. 574. p.p.

Cyp. Fieldingii Steud. Syn. II. p. 11.

Cyp. pseudo-Haspan Makino in Tokyo Bot. Mag. VI (1892) p. 47.

Cyp. tenuispica Steud. Syn. II. p. 11.

Nom. Jap. Hime-gajatsuri.

Hab. Korea austr.

Nippon, Shikoku et Kiusiu.

Distr. Geront. trop. et temp.

Subsect. 2. *Virides* m.

Gluma dorso distincte carinata viridis, rostro producto recurvo. Rhachilla aptera. (Sp. 1.)

Humilis 1–15 pollicaris. Radii umbellæ patentes. Gluma subpatenti-recurva, 1–1.2 mm. longa.

Cyperus hakonensis Fran. et Sav. Enum. Pl. Jap. II. p. 104 et p. 538. Makino in Tokyo Bot. Mag. IV. (1890) p. 229. C. B. Clark in Bull. Acad. Int. Geogr. Bot. (1904) p. 201. Matsum. Ind. Pl. Jap. II. p. 140. Nakai Fl. Kor. II. p. 288.

Nom. Jap. Hina-gajatsuri.

Hab. Nippon medius et austr., Shikoku, Kiusiu et Korea.

Planta endemica!

Subsect. 3. *Apteri* m.

Compressi Kunth Enum. II. p. 23. p.p. Bœck. in Linnæa XXXV. p. 505 p.p. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 605 p.p.

Gluma magna dorso carinata acuminata vix recurva. Spiculæ semel umbellatæ v. capitatæ. Rhachilla aptera. (Sp. 1)

Caulis humilis 0.5–1 pedalis cæspitosus. Folia elongata. Gluma 3–3.5 mm. longa viridis.

Cyperus compressus L. Sp. Pl. (ed II.) p. 68. Roxb. Fl. Ind I. p. 194. Kunth Enum. II. p. 23. Miq. in Ann. Mus. Bot. Lugd. Bat. III. p. 263. Bœck. in Linnæa XXXV. p. 517 C. B. Clark. in Journ. Linn. Soc. XX. p. 284. XXI p. 97. XXXVI. p. 210 et in Hook. fil. Fl. Brit. Ind. VI. p 605.

Cyp. pectiniformis Nees in Wight Contrib. p. 77. Hook. et Arn. Bot. Beech. Voy. p. 221.

Nom. Jap. Kugu-gajatsuri.

Hab. Nippon, Shikoku, Kiusiu.

Distr. per totas regiones temperatas et tropicas.

Sect. 5. *Corymbosi* m.

Umbella simplex v. decomposita. Spicula corymbosa. Corymbus ambitu ovatus v. rotundatus.

Subsect. 1. *Fusci* Kunth Enum. II. 37. Bœck. in Linnæa XXXV. p. 585.

Difformes C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 599.

Spicula corymbosa. Corymbus capitatus. Squamæ parvæ rotundatæ. Semina facie rotundata flava. (Sp. 1).

Caulis humilis (1 pollicaris) v. altus (2 pedalis), cæspitosus. Folia radicalia elongata sed scapo breviora. Spiculæ corymboso capitatæ. Capita umbellata. Glumæ minutæ 0.5–0.8 mm. longæ.

Cyperus difformis L. Sp. Pl. (ed. II) p. 67. Roxb. Fl. Ind. I. p. 195. Kunth Enum. II. p. 38. Miq. Fl. Ind. Bat. III. p. 269. Boeck. in Linnæa XXXV. p. 586. Benth. Fl. Hongk. p. 385. Franch. Pl. Dav. p. 317. C. B. Clark in Journ. Linn. Soc. XX. p. 290. XXI. p. 133. XXXVI. p. 210 et in Hook. fil. Fl. Brit. Ind. VI. p. 599. Franch. et Sav. Enum. Pl. Jap. II. p. 140. Nakai Fl. Kor. II. p. 286. Kom. Fl. Mansh. I p. 331. Regel Tent. Fl. Uss. n. 532. Maxim. Prim. Fl. Amur. p. 297.

Cyp. Gœringii Steud. Syn. II. p. 24. Miq. Fl. Ind. Bat. III. p. 271.

Nom. Jap. Tama-gajatsuri.

Hab. Korea tota, Nippon totus, Kiusiu, Shikoku et Liukiu.

Distr. Regio trop. et temp. per tot. orb. terr.

Subsect. 2. *Glomerati* KUNTH Enum. II. p. 75.

Leptolepides BŒCK. in Linnæa XXXV. p. 588.

Compressi C. B. CLARK in HOOK. fil. Fl. Brit. Ind. VI. p. 606 p.p.

Spiculæ corymbosæ. Corymbus capitatus ambitu rotundatus v. oblongus. Glumæ angustæ oblongo-lineares. Semina linearioblonga fuscentia. (Sp. 1).

Cyperus glomeratus L. Sp. Pl. (ed II). p. 68. KUNTH Enum. II. p. 77. BŒCK. in Linnæa XXXV. p. 592. MAXIM. Prim. Fl. Amur. p. 298. REGEL Tent. Fl. Uss. n. 533. FRAN. Pl. Dav. p. 316. C. B. CLARK in Journ. Linn. Soc. XXI. p. 141 XXXVI p. 213 et in HOOK. fil. Fl. Brit. Ind. VI. p. 607. KOM. Fl. Mansh. I. p. 33. MATSUM. Ind. Pl. Jap. II. p. 140. NAKAI Fl. Kor. II. p. 287.

Caulis 1–4 pedalis. Folia radicalia elongata non scabra, scapo subbreviora. Glumæ fuscæ 2 mm. longæ.

Nom. Jap. Numa-gajatsuri.

Hab. Korea tota et Japonia tota.

Distr. Europa, India bor., China, Amur et Manshuria.

Subsect. 3. *Iriæ* KUNTH Enum. II. p. 38.

Sphærolepides BŒCK. in Linnæa XXXV. p. 595.

Compressi C. B. CLARK in HOOK. fil. Fl. Brit. Ind. VI. p. 606. p.p.

Spiculæ corymboso-spicatæ. Squamæ orbiculatæ. Rhachilla aptera. (Sp. 1).

Cyperus Iria L. Sp. Pl. (ed. II.) p. 67. ROXB. Fl. Ind. I. p. 201. KUNTH Enum. II. p. 38. MIQ. Fl. Ind. Bat. III. p. 269. FRAN. et SAV. Enum. Pl. Jap. II. p. 103. FRAN. Pl. Dav. p. 317. BŒCK. in Linnæa XXXV. p. 595. C. B. CLARK in Journ. Linn. Soc. XX. p. 289. XXI. p. 137. XXXVI. p. 213 et in HOOK. fil. Fl. Brit. Ind. VI. p. 606. KOM. Fl. Mansh. I. p. 334. MATSUM. Ind. Pl. Jap. II. p. 141. NAKAI Fl. Kor. II. p. 288.

Cyp. Iria L. v. *microiria* Fran. et Sav. Enum. Pl. Jap. II. p. 103.

Caulis simplex v. subcæspitosus 0.5–2 pedalis. Folia radicalia elongata sed scapo breviora glaberrima. Corymbus umbellata. Folia umbellam superantia. Glumæ flavæ obovatæ 1.8 mm. longæ.

Nom. Jap. Kogome-gajatsuri.

Hab. Korea et Japonia tota.

Ludit spiculæ breves 4–6 flores.

forma **paniciformis** (Fran, et Sav.) m.

Cyp. paniciformis Fran. et Sav. Enum. Pl. Jap. II. p. 103. et p. 537.

Cyp. Iria var. *paniciformis* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 607 et in Journ. Linn. Soc. XXXVI. p. 29.

vel spiculæ tantum 2–4 flores.

forma **depauperata** Bœck. in Engl. Bot. Jahrb. VI. p. 51.

Utræque formæ crescit in Asia orientali cum typo mixta, sed typica haud rarum ramos harum varietatum agit.

Subsect. 4. *Exaltati* Kunth Enum. II. p. 70. Bœck. in Linnæa XXXVI. p. 317. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 617.

Marginati Bœck. in Linnæa XXXV. p. 598. p.p.

Spiculæ spicatæ. Spicæ corymbosæ v. subpaniculatæ. Glumæ rotundatæ v. oblongæ, rostratæ. Caulis vulgo simplex v. subcompositus. (Sp. 5.).

A. Glumæ badiæ dorso 9 nerviis. Radii elongati. Caulis 1–3 pedalis simplex v. subcæspitosus. Folia radicalia elongata supra scaberulla. Spiculæ subcorymbosæ. Squamæ oblongæ primo fusco-virides, demum badiæ.

Cyperus truncatus Turcz. Cat. Baic-Dah. n. 1206. Maxim. Prim. Fl. Amur. p. 297. Bœck. in Linnæa XXXV. p. 604. C. B. Clark in Journ. Linn. Soc. XXXVI. p. 218. Kom. Fl. Mansh. I. p. 329. Korsch. in Act. Hort. Petrop. XII. p. 405. Matsum. Ind. Pl. Jap. II. p. 143. Nakai Fl. Kor. II. p. 289.

Nom. Jap. Ushi-kugu.

Hab. Jeso, Nippon et Korea.

Distr. Dahuria, Amur, Manshuria et China.

variat ; spiculæ abbreviatæ 3–5 mm. longæ 6–9 floribus, sed spicatim dispositæ.

var. **orthostachys** (Fran. et Sav.) C. B. Clark in Journ. Linn. Soc. XXXVI. p. 218. Matsum. Ind. Pl. Jap. II. p. 143.

Cyp. orthostachys Fran. et Sav. Enum. Pl. Jap. II. p. 106. p. 539.

Cyp. fimbriatus Miq. Prol. Fl. Jap. p. 74. p. 357. Fran. et Sav. Enum. Pl. Jap. II. p. 107.

Nom. Jap. Ko-ushi-kugu.

Hab. Nippon, Shikoku et Kiusiu.

Distr. China.

B. Glumæ non badiæ flavidæ v. fuscatæ 5–7 nerviis.

a. Glumæ cum seminibus maturatis approximate-imbricatæ erectæ non reflexæ, margine fusco-scariosæ.

Spiculæ 7–12 mm. longæ 1.5–1.8 mm. latæ. Glumæ 1.5–2 mm. longæ apice valde acuminatæ, dorso virides 7–9 nerviis. Caulis 1–4 pedalis robustus. Spiculæ spicato-dispositæ, semel v. bis umbellulatæ.

Cyperus Iwasakii Makino in Tokyo Bot. Mag. VI. (1892) p. 47. et 120.

Cyp. Tokiensis C. B. Clark ms.

Nom. Jap. Kwan-en-gajatsuri.

Hab. Nippon.

Planta endemica, quæ a C. B. Clark cum *Cyp. truncato* comparatur affinior ad *Cyp. exaltatum*. An varietas ?

Spiculæ 5–6 mm. longæ anguste-lanceolatæ 1.5 mm. latæ. Glumæ 1.5 mm. longæ apice valde acuminatæ 7 nerviis. Caulis 2–4 pedalis robustus. Folia supra ad venas scabriuscula. Umbella magna.

Cyperus exaltatus Retz. Obs. V. p. 11. Kunth Enum. II. p. 70. Bœck. in Linnæa XXXVI. p. 319. C. B. Clark in Journ. Linn. Soc. XXI. p. 186. XXXVI. p. 212 et in Hook. fil. Fl. Brit. Ind. VI. p. 617. Nakai Fl. Kor. II. p. 287.

Cyp. alopecuroides Roxb. Fl. Ind. I. p. 208.

Cyp. oryzeticola Steud. Syn. II. p. 37.

Cyp. racemosus Heyne. Bœck. in Flora LXII. 555. Hance in Journ. Bot. XVI. p. 112.

Cyp. umbellatus Roxb. Fl. Ind. I. p. 205.

Cyp. venustus R. Br. Prodr. p. 207. Kunth Enum. II. p. 68.

Nom. Jap. Kōrai-gajatsuri.

Hab. Korea.

Distr. Regio trop. et temp.

b. Glumæ cum seminibus maturatis subremotæ apice rectæ v. paulo reflexæ, 5 nerviis, dorso virides.

a. Glumæ dorso virides, ceteris partibus fusco-flavæ v. flavæ, rostro paulo producto erecto. Caulis humilis (2–3 pollicaris) v. altus (usque 2.5 pedalis). Spiculæ corymboso-spicatæ, Spicæ umbellatæ. Glumæ rotundatæ 1.5 mm. longæ, rostro 0.3 mm. longæ rectæ.

Cyperus Textori Miq. Prol. Fl. Jap. p. 73.

Cyp. Krameri Fran. et Sav. Enum. Pl. Jap. II. p. 105.

Cyp. Textori v. *laxa* Fran. et Sav. Enum. Pl. Jap. II. p. 539.

Cyp. japonicus (non Miq.) Makino in Tokyo Bot. Mag. XVIII. (1904) p. 53. Matsum. Ind. Pl. Jap. II. p. 141.

Cyp. amuricus Kom. Fl. Mansh. I. p. 330 p.p.

Cyp. amuricus Maxim. var. *japonicus* Miq. Prol. Fl. Jap. p. 73. Fran. et Sav. Enum. Pl. Jap. II. p. 105.

Cyp. Iria var. *amabilis submucronatis* C. B. Clark in Journ. Linn. Soc. XX. p. 138.

Nom. Jap. Ki-gajatsuri.

Hab. Corea et Japonia tota.

Distr. Manshuria et China.

β. Glumæ dorso virides, ceteris partibus fuscæ 5 nerviis, rostro distincte producto 0.5 mm. longo reflexo. Cet. ut præced.

Cyperus amuricus Maxim. Prim. Fl. Amur. p. 296. Regel Tent. Fl. Uss. n. 531. Bœck in Linnæa XXXV. p. 607. Kom. Fl. Mansh. I. p. 330 p.p. C. B. Clark in Journ. Linn. Soc. XXXVI. p. 208 p.p. Nakai Fl. Kor. II. p. 286.

Nom. Jap. Cha-gajatsuri.
Hab. Japonia et Korea tota.
Distr. China, Amur et Manshria.

Cyperus pterygorhachis C. B. Clark, *Cyp Hilgendorfianus* Boeck. *Cyp. speciosus* Vahl. non observavi.

Gn. II. **Mariscus**, Vahl.

Vahl. Enum. II. p. 372. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 612. Kunth Enum. Pl. II. p. 115. Steudel Syn. II. p. 59.

Cyperus sect. *Mariscus Benth.* et Hook. fil. Gen. Pl. III. p. 1045. Pax in Engl. Prantl Nat. Pflanzenfamilien II. ii. p. 109.

Cyperus subgen. *Mariscus* C. B. Clark in Journ. Linn. Soc. XXI. p. 193.

Glumæ persistentes. Rhachilla continua supra glumam secundam articulatim decidua. Styli trifidi. Nux trigona. Planta a rhizomate repente perennis. (Sp. 2, utraque subgeneris Eu-Marisci sunt.).

Subgen. *Eu-Mariscus* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 620.

Caulis basi crassis sed pars incrassata brevis.

Sect. 1. *Umbellati* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 620.

Spiculæ spicato-congestæ. Spicæ umbellatæ. Folia glaberrima. (Sp. 2.).

A. Gluma viridissima.

Rhizoma breve tenue apice ad basin caulis incrassatum. Folia radicalia longissima. Umbella simplex. Spiculæ spicatæ, sed non distichæ. Glumæ infimæ duæ vacuæ dorso 5 nerviis, fertiles 3 mm. longæ. Rhachilla alata. Styli profunde trifidi. Semen facie oblanceolatum flavidum.

Mariscus Sieberianus Nees in Linnæa IX. p. 286. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 622. et in Journ. Linn Soc. XXXVI. p. 221. Matsum. et Hayata Enum. Pl. Form. p. 477. Matsum. Ind. Pl. Jap. II. p. 156.

M. umbellatus Vahl. Enum. II. p. 376. p.p. Kunth Enum. II. p. 118 p.p.

M. cyperinus Presl. in Oken Iris XXI (1828) p. 280. Hook. et Arn. Bot. Beech. Voy. p. 272. (non Vahl.).

Kyllingia umbellata Roxb. Fl. Ind. I. p. 182.

Cyperus umbellatus Miq. in Ann. Mus. Bot. Lugd. Bat. II. p. 142.

Cyp. ovularis Bœck, in Linnæa XXXVI. p. 383 p.p. et in Engl. Bot. Jahrb. VI. p. 51.

Cyp. cylindrostachyus Bœck. in Linnæa XXXVI. p. 383. p.p.

Cyp. Sieberianus Diels in Engl. Bot. Jahrb. XXIX. p. 227.

Nom. Jap. Kugu.

Hab. Nippon austr. Shikoku, Kiusiu et Liukiu.

Distr. Regio trop. et subtrop.

Varietas *subcomposita* C. B. Clark in Japonia crescere dicitur. (a C. B. Clark in Journ. Linn. Soc. XXXIV. p. 44.). sed toto dubia.

B. Gluma fusco-viridis.

Rhizoma breve. Caulis cæspitosus. Folia radicalia elongata. Scapus folia superans. Folia involucrata elongata. Umbella simplex. Spiculæ spicatæ sed non distichæ. Glumæ infimæ 2 vacuæ, fertiles 3 mm. longæ fusco-virides, dorso virides 3 nerviis.

Mariscus cyperinus Vahl. Enum. II. p. 377. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 621. et in Journ. Linn. Soc. XXXIV. p. 42. XXXVI. p. 220 et in Bull. Acad. Int. Geogr. Bot. (1904). p. 202. Nees in Hook. et Arn. Bot. Beech. Voy. p. 223. Matsum. Ind. Pl. Jap. II. p. 156.

M. sundaicus Miq. Fl. Ind. Bat. III. p. 289.

Cyperus paniceus Bœck. in Linnæa XXXVI. p. 381.

Cyp umbellatus Benth. Fl. Hongk. p. 386.

Cyp. umbellatus forma *cyperina* C. B. Clark in Journ. Soc. XXI. p. 220.

Nom. Jap. Shima-Kugu.

Hab. Liukiu et insula Jakushima.

Distr. Malaya, Polynesia, India, China et Formosa.

Sect. II. *Turgiduli* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 623.

Umbella composita. Spiculæ oblongæ. (Sp. 1.).

Mariscus albescens Gaud. in Freyc. Voy. Bot. p. 415. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 623 et in Journ. Linn. Soc. XXXVI. p. 220. Matsum. et Hayata Enum. Pl. Form. p. 476. Matsum. Ind. Pl. Jap. II. p. 156.

Cyperus canescens Vahl. Enum. II. p. 355. Bœck. in Linnæa XXXVI. p. 340. Hook. et Arn. Bot. Beech. Voy. p. 222.

Cyp. pennatus Lam. Poir. Encycl. VII. p. 240. Kunth Enum. II. p. 80. Benth. Fl. Hongk. p. 387 et Fl. Austr. VII. p. 284. Hance in Journ. Linn. Soc. XIII. p. 131. C. B. Clark in Journ. Linn. Soc. XXI. p. 194.

Cyp. stuppeus Forst. fil. Ins. Austr. Prod. p. 89.

Rhizoma breve apice ad basin caulis valde incrassatum. Folia radicalia elongata margine argute denticulata. Caulis elatus 2–4 pedalis. Folia umbellata elongata. Umbella subcapitato-composita. Glumæ albescentes 3 mm. longæ, dorso 5 nerviis, infimæ 4 vacuæ. Styli trifidi sed supra medium connati. Semina facie obovata flavida.

Nom. Jap. Oni-Kugu.

Hab. Liukiu et insula Iwōtō.

Distr. Asia austr.-orient. Australia trop. Polynesia et Hawai.

Gn. III. **Torulinium** Desv.

Desv. in Hamilt. Prodr. Fl. Ind. Occid. (1825) p. 15.

Cyperus sect. *Torulinium* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 624.

Cyperus sect. *Mariscoides* KUNTH Enum. II. p. 84.

Diclidium SCHRAD. et NEES in Mart. Fl. Brasil. II. i (1842). p. 51.

Cyperus sect. *Diclidium* BENTH. et HOOK. fil. Gen. Pl. III. p. 1045. PAX in ENGL. Prantl. Nat. Pflanzenfamilien II. ii p. 109.

Cyperus sect. *Diclidia* BŒCK. in Linnæa XXXVI. p. 292.

Gluma persistens. Rhachilla articulata. Quidque fragmentum rhachillæ 1 glumam et 1 semen portat. Styli trifidi. Nux trigona. (sp. 1).

Torulinium confertum HAMILT. Prodr. Pl. Ind. Occid. (1825). p. 15. C. B. CLARK in Journ. Linn. Soc. XXXVI. p. 222. MATSUM. et HAYATA Enum. Pl. Form. p. 478.

T. ferox KUNTH Enum. II. 90 sub *Cyperu feiax.*

Cyperus articulatus NEES ex ESENB. et MEYEN in Linnæa IX. p. 285 KUNTH Enum. II. p. 104.

C. ferax RICH. in Act. Soc. Hist. Paris I. (1792) p. 106. KUNTH Enum. II. p. 89. BŒCK. in Linnæa XXXVI. p. 399.

C. densiflorus G. F. W. MEYER Prim. Fl. Esseq. (1818) p. 34. KUNTH Enum. II. p. 104.

C. lomentaceus NEES ex ESENB. et MEYEN in Linnæa IX. p. 285. KUNTH Enum. II. p. 83. p.p.

C. multiceps, C. Prescottianus, C. strigosus NEES in HOOK. et ARN. Bot. BEECH. Voy. p. 100. KUNTH Enum. II. p. 102.

Mariscus ferax C. B. CLARK in HOOK. fil. Fl. Brit. Ind. VI. p. 624.

Diclidium ferox SCHRADER ex NEES in Mart. Fl. Brasil II. i. p. 54.

Estolones. Caulis elatus 1–4 pedalis. Folia elongata margine serrulata. Spiculæ corymboso-spicatæ. Corymbus umbellatæ. Spiculæ primo virides erectæ, fructiferæ fuscatæ horizontali patentes 1.5–2.5 cm. Glumæ 3 mm. longæ dorso 5–7 nerviis. Styli supra medium connati. Nux trigona facie oblanceolata fusco-flava. Rhachilla aptera articulata.

Nom. Jap. Mutsuore-gajatsuri.

Hab. insula Bonin.

Distr. per tot. reg. trop.

Gn. IV. **Juncellus** Griseb.

Griseb. Fl. Brit. West. Ind. p. 562. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 594.

Cyperus sect. B. Kunth Enum. II. p. 17.

Cyperus sect. *Eucyperus* p.p. Bœck. in Linnæa XXXV. p. 493.

Cyperus sect. *Juncellus* Benth. et Hook. fil. Gen. Pl. III. p. 1044. Pax in Engl. Prantl. Nat. Pflanzenfamilien II. ii. p. 107.

Glumæ distichæ deciduæ a dorso compressæ. Styli bifidi. Nux plano-convexa. (Sp. 2.).

Sect. 1. *Stoloniferi* m.

Planta stolonifera. Stolones ad basin caulis incrassati. (Sp. 1).

Juncellus serotinus (Rottb.) C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 594 et in Journ. Linn. Soc. XXXIV. p. 154. XXXVI. p. 208 et in Bull. Acad. Int. Geogr. Bot. (1904) p. 202. Matsum. Ind. Pl. Jap. II. p. 154. Nakai Fl. Kor. II. p. 286.

Cyperus serotinus Rottb. Desc. et Icon. Gram. p. 31. Kunth Enum. II. p. 19. Bœck. in Linnæa XXXV. p. 492. Franch. Pl. Dav. p. 316. Diels in Engl. Bot. Jahrb. XXIX. p. 227. Kom. Fl. Mansh. I. p. 332.

Cy. japonicus Miq. Prol. Fl. Jap. p. 72. Fran. et Sav. Enum. Pl. Jap. II. p. 103.

Cy. serotinus v. *depauperata* Fran. et Sav. Enum. Pl. Jap. II. p. 102.

Cy. Monti L. fil. suppl. 102. Regel Tent. Fl. Uss. n. 530.

Stolones herbacei non lignosi sed apice ad basin caulis incrassati lignosique. Caulis 1–5 pedalis. Folia radicalia elongata præter margines glaberrima. Spiculæ 3–18 mm. longæ, corymboso-spicatæ. Spicæ umbellatæ. Squamæ 2.5 mm. longæ, 7 nerviis badiæ margine albo-submembranaceæ.

Nom. Jap. Midzu-gajatsuri v. Ushi-gajatsuri.

Hab. Japonia, Kiusiu, Shikoku et Korea.

Distr. India bor., China, Manshuria, et Europa austr.

Sect. 2. *Cæspitosi m.*

Planta annua. Caulis cæspitosus. Stolones O. (Sp. 1).

Juncellus pygmæus (Rottb.) C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 576 et in Journ. Linn. Soc. XXXV. p. 18. XXXVI. p. 207. Matsum. Ind Pl. Jap. II. p. 154.

Cyperus pygmæus Rottb. Desc. et Ic. Gram. t. 14. f. 4 et 5. Kunth Enum. Pl. II. p. 18. Bœck. in Linnæa XXXV. p. 493. Fran. et Sav. Enum. Pl. Jap. II. p. 102. Kom. Fl. Mansh. I. p. 332.

Cyp. pygmæus v. *filifolia* Fran. et Sav. Enum. Pl. Jap. II. p. 102.

Cyp. nipponicus Fran. et Sav. Enum. Pl. Jap. II. p. 102. p. 537.

Juncellus nipponicus C. B Clark in Bull. Acad. Int. Geogr. Bot. (1904) p. 202.

Planta annua. Caulis cæspitosus et humilis 0.1–2 pedalis. Folia radicalia basi rubescentia elongata glaberrima. Spiculæ corymboso-capitatæ. Capita rarius umbellata. Glumæ virescentes 9 nerviis 2 mm. longæ.

Nom. Jap. Ao-gajatsuri.

Hab. Nippon tota et Korea.

Distr. India bor., China, Manshuria et Amur.

Gn. V. **Pycreus,** Beauv.

Beauv. Fl. Ow. et Ben. II. p. 48. t. 86. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI p. 589.

Cyperus sect. *Pycreus* Kunth Enum. II. p. 3. Pax in Engl. Prantl. Nat. Pflanzenfamilien II. ii. p. 107. Benth. et Hook. fil. Gen. Pl. III. p. 594. Steudel Syn. II. p. 3. Bœck. in Linnæa XXXV. p. 437.

Cyperus subgen. *Pycreus* C. B. Clark in Journ. Linn. Soc. XXI. p. 35.

Gluma decidua a latere compressa. Rhachilla non articulata Styli bifidi. Nux biconvexa ie. a latere compressa. (Sp. 5.)

Sect. 1. *Monocephali* m.

Spicula unica v. binata. Planta humillima annua. (Sp. 1.).

Pycreus setiformis (KORSCH.) NAKAI.

Cyperus setiformis KORSCH. Act. Hort. Petrop. XII. p. 405. KOM. Fl. Mansh. I. p. 328. NAKAI Fl. Kor. II. p. 289.

Radix annua. Caulis cæspitosus humillima 1–4 pollicaris. Folia angustissima subsetacea. Spiculæ unicæ v. binatæ. Glumæ fuscæ dorso virides et trinerviis. Styli bifidi. Nux late-obovata fusca.

Nom. Jap. Matsuba-Kajatsuri.

Hab. Korea sept.

Distr. Amur.

Sect. 2. *Capitati* m.

Spiculæ corymboso-capitatæ. Capita simplicia v. umbellata (Sp. 2).

A. Spiculæ apice acutissimæ.

Caulis 0.5–2 pedalis, cæspitosus. Folia glaberrima, umbellata elongata. Spiculæ 0.5–15 mm. longæ acutissimæ. Gluma facie lanceolata fusca dorso virides et trinerviis. Styli bifidi. Nux obovato-oblonga atrata.

Pycreus polystachyus BEAUV. Fl. Owar. II. p. 48. t. 86. fig. 2. NEES ex ESENB. in Linnæa IX. p. 283. C. B. CLARK in HOOK. fil. Fl. Brit. Ind. VI. p. 592 et in Journ. Linn. Soc. XXXVI. p. 205. MATSUM. et HAYATA. Enum. Pl. Form. p. 469.

Cyp. brunneus HOOK. et Arn. Bot. Beech. Voy. p. 99.

Cyp. odoratus L. Sp. pl. p. 46. p.p.

Cyp. polystachyus R. BR. Prodr. p. 214. KUNTH Enum. II. p. 13. HOOK. et ARN. Bot. Beech. Voy. p. 220. BENTH. Fl. Hongk. p. 385. BŒCK. in Linnæa XXXV. p. 477. KOM. Fl. Mansh. I. p. 333.

Nom. Jap. Iga-gajatsuri.

Hab. Nippon medius et austr., Shikoku, Kiushiu, Bonin, Liukiu, et insula Quelpaert.

Distr. Regio temp. et trop.

B. Spiculæ apice acutæ.

Caulis cæspitosus 0.5–25 pedalis. Folia glaberrima. Spiculæ 3–15 mm. Glumæ 2.5 mm. longæ facie ovato-lanceolata v. ovata fusco-badia, dorso virides et trinerviis. Styli bifidi. Nux obovata fusco-ater.

Pycreus sanguinolentus Nees in Linnæa IX. p. 283. C.B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 590 et in Journ. Linn. Soc. XXXVI. p. 206. Matsum. et Hayata Enum. Pl. Form. p. 469. Nakai Fl. Kor. II. p. 285.

Cyperus sanguinolentis Vahl. Enum. II. p. 322. Kunth Enum. II. p. 7. Benth Fl. Hongk. p. 385. Bœck. in Linnæa. XXXV. p. 443. Fran. et Sav. Enum. Pl. Jap. II. p. 102. Franch. Pl. Dav. p. 316. Kom. Fl. Mansh. I. p. 334.

Cyperus flavescens var. *rubro-marginata* Schrenk Enum. I. p. 3. Regel Tent. Fl. Uss. n. 527.

Cyperus sanguinolentis v. *spectabilis* Makino in Tokyo Bot. Mag. XIX (1905). p. 144.

Cy. atratus Steud. Bœck. in Linnæa p. 446.

Cy. Eragrostis var. *spectabilis* Makino in Tokyo Bot. Mag. VI. (1892). p. 47.

Nom. Jap. Kawara-sugana, Shide-gajatsuri.

Hab. Japonia et Korea tota.

Distr. Asia trop. et temp., Australia et Abyssinia.

Sect. 3. *Umbellata* m.

Spiculæ spicatæ v. corymboso-spicatæ. Spicæ umbellatæ. (Sp. 2.).

A. Glumæ facies ovato-lanceolatæ 3–3.5 mm.

Rhizomata elongata v. nulla. Caulis 1–3 pedalis levis. Folia elongata glaberrima angusta. Folia involucrata elongata. Umbella simplex. Spiculæ in spica oligomeræ. Rhachilla subaptera. Styli bifidi. Nux ater ovato-rotundata.

Pycreus angulatus Nees in Linnæa IX. p. 283. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 593 et in Journ. Linn. Soc. XXXVI. p. 202.

Cyperus angulatus Nees in Wight Contrib. p. 73. Bœck in Linnæa XXXV. p. 465.

C. unioloides R. Br. Prodr. p. 216. Kunth Enum. II. p. 112. C. B. Clark in Journ. Linn. Soc. XXI. p. 60.

C. bromoides Willd. Kunth Enum. II. p. 8. Boeck. in Linnæa XXXV. p. 463.

C. spinuliferus Bœck. in Linnæa XXXV. p. 465.

C. tosaensis Makino in Tokyo Bot. Mag. VI. (1892) p. 47. Matsum. Ind. Pl. Jap. II. p. 143.

Nom. Jap. Mugigara-Kajatsuri.

Hab. in prov. Tosa.

Distr. Regio trop. et subtrop.

B. *Glumæ facies lanceolata v. oblonga 2–25 mm. longa.* Rhizoma nulla. Caulis cæspitosus 0.3–2.5 pedalis. Folia umbellata umbellam amplam superantia. Nux obovata fusco-ater. *Glumæ castaneæ v. in var. virides trinerviis. Spiculæ 7–15 mm. longæ.*

Pycreus globosus Reichb. Fl. Excurs. (1830–32) Add. p. 140. C. B. Clark in Journ. Linn. Soc. XXXVI. p. 203.

Cyperus globosus Allioni Fl. Pedemont. p. 49. Bœck. in Linnæa XXXV. p. 454 et in Engl. Bot. Jahrb. VI. p. 50. Hance in Journ. Bot. XVII. p. 16. C. B. Clark in Journ. Linn. Soc. XXI. p. 47.

C. capillaris Koenig. Roxb. Fl. Ind. I. p. 198. Hook. et Arn. Bot. Beech. Voy. p. 220.

C. Lamarkianus Schultes in Roem. et Schultes Syst. II. mant. p. 108. Kunth Enum. II. p. 9.

C. vulgaris Sieber Kunth Enum. II. p. 4. Benth. Fl. Hongk. p. 385. Regel Tent. Fl. Uss. n. 529. Ledeb. Fl. Ross. IV. p. 239.

C. complanatus Presl. Fran. Pl. Dav. p. 316. Fran. et Sav. Enum. Pl. Jap. II. p. 100.

Pycreus capillaris Nees in Linnæa IX. p. 238. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 591.

Cyperus fusco-ater Meinsh. in Act. Hort. Petrop. XII. p. 406. Kom. Fl. Mansh. I. p. 332.

Nom. Jap. Aze-gajatsuri.

Hab. Japania et Korea tota.

Disir. Europa et Asia temp. et trop. nec non Australia.

Variat ; Spiculæ 3–9 mm. longæ et castaneæ.

Pycreus globosus var. γ. **stricta** (Lam.) C. B. Clark in Journ. Linn. Soc. XXXVI. p. 205.

Cyperus globosus var. γ. *stricta* (Lam.) C. B. Clark in Journ. Linn. Soc. XXI. p. 49.

Cy. strictus Lamark Ill. I. p. 146. Roxb. Fl. Ind. p. 200. Kunth Enum. II. p. 12.

C. complanatus var. *dimidiata* Fran. et. Sav. Enum. Pl. Jap. II. p. 100.

C. tortuosus Kœnig Roxb. Fl. Ind. I. p. 197. Kunth Enum. II. p. 16.

Pycreus capillaris γ. *stricta* C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p 592.

Nom. Jap. Me-aze-gajatsuri.

Hab. Japonia tota.

Distr. Africa, Persia, India et China.

Et variat. Spiculæ virides, longitudinis ut in typo.

Pycreus globosus Reichb. var. **viridescens** m.

P. globosus f. *dimidiata* in sched. Herb. Imp. Univ. Tokyo. (non Fran. et Sav.).

Hab. circa Tokyo.

Planta endemica !

Varietas *nilagirica* scripta a C. B. Clark in Japonia crescere, sed toto dubia.

Gn. VI. **Kyllingia** Rottb.

Rottb. Desc. et Icon. p. 12. t. 4. (1773). L. fil. suppl. p. 11. Nees in Linnæa IX. p. 286. Kunth Enum. II. p. 127. Benth. et Hook. fil. Gen. Pl. III. p. 1045. Steud. Syn. II. p. 66. Pax in Engl. Prantl. Nat. Pflanzenfamilien II. ii. p. 109.

Cyperus Kyllingia Kyllingia Endl. Gen. Pl. p. 119.

Spiculæ capitatæ v. ovato-oblongæ aggregatæ densissimæ, basi articulatæ. Glumæ distichæ 4–5, tertianæ bisexuales, qua-

ternæ masculæ, ceteræ vacuæ. Styli bifidi. Nux latere compressa. (Sp. 2).

A. *Gluma fructifera dorso supra medium alato-denticulata.* Rhizoma longe repense. Caulis 0.3–2 pedalis. Folia involucrata elongata. Glumæ virides.

Kyllingia moncephala Rottb. Desc. et Icon. p. 13. t. 4. f. 4. Roxb. Fl. Ind. I. p. 180. Miq. Fl. Ind. Bat. III. p. 291. Bœck. in Linnæa XXXV. p. 427. Benth. Fl. Hongk. p. 388. p.p. Kunth Enum. II. p. 129. C. B. Clark in Hook. fil. Fl. Brit. Ind. VI. p. 589 et in Journ. Linn. Soc. XXXVI. p. 244.

K. mindorensis Steud. Syn. II. p. 67.

Nom. Jap. Ohime-kugu.

Hab. Bonin et Linkiu.

Distr. Regio trop. et subtrop. Geront.

B. *Gluma fructifera dorso non alata*, integra v. paucidentata Cet. ut præced.

Kyllingia brevifolia Rottb. Desc. et Icon. p. 13. t. 4. f. 3. Bœck. in Linnæa XXXV. p. 424. C. B. Clark. in Hook. fil. Fl. Brit. Ind. VI. p. 588 et in Journ. Linn. Soc. XXXVI. p. 223.

K. monocephala (non Rottb.) Thunb. Fl. Jap. p. 35. Miq. in Ann. Mus. Bot. Lugd. Bat. II. p. 142. Fran. et Sav. Enum. Pl. Jap. II. p. 108. Kom. Fl. Mansh. I. p. 335.

K. gracilis Kunth Enum. II. p. 131.

K. gracillima Miq. Prol. Fl. Jap. 74. Fran. et Sav. Enum. Pl. Jap. II. p. 108.

K. sororia Kunth. II. p. 131. Miq. Fl. Ind. Bat. III. p. 293. p.p.

K. triceps Thunb. Fl. Jap. p. 35.

Nom. Jap. Hime-kugu.

Hab. Japonia et Korea tota.

Distr. Regio temp. et trop. per tot. orb.

(finis.)

Index generum et specierum, nec non synonymorum plantarum Cyperinarum in Japonia et in Korea crescentium.

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Observations on the Flora of Japan.

(*Continued from p. 184.*)

By

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Halophila eupnlebia Makino, sp. nov. (Fig. XV.).

Halophila ovalis Hayata, Mater. Fl. Formos in Journ. Coll. Sc. Imp. Univ. Tokyo, XXX. 1 (1911), p. 309, non Hook. fil.

A submerged marine perennial herb. Stem long-creeping, hypogæous, laxly ramose, rooting at nodes, stout-filiform, 1–1½ mm. in diameter, glabrous, pale; internodes about ½–4 cm. long; root one to a node, long, filiform, clothed with white delicate root-hairs. Leaves in pair at each node of the stem, arising upon sand or mud, petiolate, enclosed the base of petioles with one of scales, which are placed at each node of stems; lamina oblong, broadly oblong,

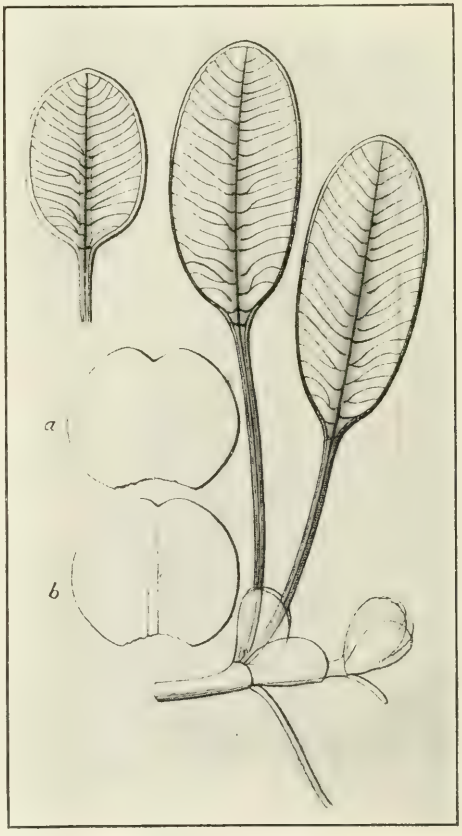

Fig. XV. *mag.*

or oval-elliptical, rounded or rounded-obtuse at the apex, obtuse at the base, quite entire, herbaceous, thickly membranaceous, smooth, glabrous, thickish towards the straight midrib, green, not hyaline on margin, 13–21 mm. long, 6–11 mm. broad, penninerved with lateral veins which are connect a broad middle costa and the marginal nerves; lateral viens numerous and about 16–18 on each side, distinct, spreading (sub-erect-patent), subclosely parallelly arranged, simple and bifurcate at the base; the upper ones hardly arcuate upwards, the middle ones sub-straight, and the lower ones hardly arcuate downwards, the branches of the bifurcate vein sometimes again connate or one of them connate to the neighboring one, the area limited by two veins broadly linear; the marginal nerve truly marginal but the upper portion very scarcely intramarginal, or sometimes entirely slightly intramarginal; petiole shorter or longer than the lamina, slender, glabrous, purpurascent as well as the very base of the lamina, not dilated at the base, slightly short-dilated under the lamina and about $1\frac{1}{3}$ mm. wide, $\frac{1}{2}$–$3\frac{3}{4}$ cm. long; scales 2, short, placed at the node, spuriously opposite, vaginate, inner 1 (Fig. XV. *a*) conduplicately enclosing the base of petioles and 1-nerved, outer 1 (Fig. XV. *b*) amplexicaul above the node and sub-3-nerved, any one thinly membranaceous, hyaline, broad, transversely elliptical, emarginate at apex, 5–6 mm. long. Flowers.....

Nom. Jap. *Ô-umihirumo* (nov.), *Umi-koban* (nov.).

Hab. Prov. Awa in Shikoku: Shishikui in Kaifu-gôri (*D. Nikai*! herb. Sc. Coll. Imp. Univ. Tokyo, Aug. 22, 1906).

(Distrib.) Isl. Pratas (*T. Kawakami*! June 1908).

This species differs from *Halophila ovalis* Hook. fil. and *H. ovata* Gaud. in having the broader and thicker leaves, marginal or sub-intramarginal nerves, numerous and closely arranged lateral veins, and purpurascent petiole.

Halophila ovalis (R. Br.). Hook. fil. Fl. Tasm. II. p. 45; Miq. Fl. Ind. Bat. III. p. 230; Boiss. 'Fl. Orient. V. p. 2'; Benth. Fl. Austral. VII. p. 182; Aschers. 'in Nuor. Giorn.

Bot. Ital. III. p. 301,' et in Linnæa, XXXV. p. 173 ; Journ. Bot. (1875), p. 113 ; Matsum. in Bot. Mag., Tokyo, IX. (1895), p. 69 ; Makino in Bot. Mag., Tokyo, X. (1896), p. 318. (Fig. XV.)

Caulinia ? *ovalis* R. Br. Prodr. Fl. Nov. Holl. (1810), p. 339.

Kernera ? *ovalis* Schult. Syst. Veg. VII. (1829), p. 170.

Halophila ovata F. Muell. Fragm. Phytogr. Austral. VIII. (1872–74). p. 219 ; Hook. fil. Fl. Brit. Ind. V. p. 663 ; Trimen, Handb. Fl. Ceyl. IV. p. 128 ; Ito in Ann. Bot. XIII. (1899), p. 465 ; Wright in Journ. Linn. Soc. XXXVI. p. 3 (1903) ; Matsum. Enum. Pl. Jap. II. 1, p. 32, non Gaudich.

Fig. XVI. *mag.*

? *Thalassia stipulacea* Miq. Fl. Ind. Bat. III. p. 226, excl. citatio., non Kœn.

Barkania punctata Ehrb. Symb. Phys. Bot. in Abhandl. Berl. Akad. I. p. 429.

Halophila madagascariensis Steud. Nomencl. Bot. ed. 2, I. p. 720.

Halophila Kotschyana Fenzl, ex Aschers. in Linnæa, XXXV. p. 713.

Nom. Jap. *Umi-hirumo* (J. Matsumura in Bot. Mag., Tokyo. IX. p. 69).

Hab. Prov. Sagami : Misaki (*Y. Yabe* ! herb. Sc. Coll. Imp. Univ. Tokyo, July 19, 1899 ; *T. Nakai* ! herb. ibid. Aug. 1909, floriferous !) ; Prov. Sanuki : Kôzai (*T. Makino* ! Sept. 4, 1906) ; Prov. Noto : Uchi-ura (*K. Okamura* ! herb. ibid. Dec. 18, 1902), Nanao (*T. Ichimura* ! herb. ibid. Aug. 3, 1910).

The congener *Halophila ovata* Gaudich. in Freyc. Voy. Bot. (1826). p. 430, tab. 40, fig. 1 ; Ostenfeld in Philipin Journ. Sci. IV. Suppl. p. 67, is hitherto unknown in Japan, but while the above *H. ovalis* Hook. fil. exists there.

Cymodocea (Amphibolis) **asiatica** Makino, sp. nov. (Fig. XVII.)

Perennial, not robust. Rhizome creeping, hypogæous, slender, terete and striate, about 2 mm. across, with nodes which are hardly prominent, rooting, subligneous and leather-coloured when dry; internodes long, about 3–4 cm. long; branches one to each node, erect, very short, about 1 cm. or a little more long, ending a tuft of leaves at the top, often loosely 1– or 2–cicatrisate, subligneous when dry; roots one or two to each node, long, terete, with branchlets except the basal portion, attaining about 12 cm. in length. Leaves about 3 and tufted at the top of branches, closely placed and alternate, clasping each other with convolutely inflexed-margined sheaths, sessile, 2–seriate; sheath light leather-coloured, cuneate, complanate, contracted towards the base, separated from the lamina by a transverse line, membranaceous, about 13–22 mm. long, about 8 mm broad but about 14–15 mm. broad when laid open, longitudinally subnumerous-nerved and with very loose delicate transverse venules between the nerves, very thin and subhyaline and looser-nervate towards the entire margin, truncate with a short free transversely narrow entire enerved subhyaline ligule, which is produced and auriculate into a small cuspidate tip at the both sides; that of the inner-

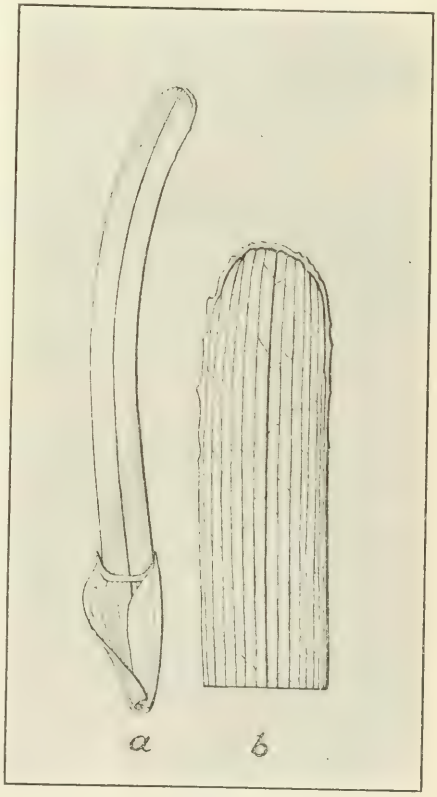

FIG. XVII.

a, slightly magnified. b, magnified.

most leaf very short and rudimentary; the outermost old one free from the fallen lamina; lamina plane, membranaceous, firm, darkish when dried, broad-linear, often more or less falcate, subtruncato-rounded and not scarious at the apex, slightly serrulate with short acutish and depressed-obtuse minute teeth towards the apex but otherwise quite entire, 3–8 cm. long, $4\frac{1}{2}$–7 mm. wide, about 14–15-nervate and with very loose transverse delicate venules between nerves; midrib scarcely stronger. Genitals unknown.

Nom. Jap. *Ryûkyû-amamo* (nov.).

Hab. Liukiu: Naha in Isl. Okinawa (*S. Kanagusuku*! April 1911).

This marine phanerogam comes very near *Cymodocea ciliata* Ehrenb., from which it differs in having the smaller feature, elongate internodes of the rhizome, much shorter branches, fewer nerves of leaves, and not emarginato-retuse apex and not scarious apical margin of the lamina, etc; it is more closely allied to *C. antarctica* Endl., which has the leavers of the truncate apex with acute angles or teeth (after Bentham) or "semilunati emarginata" apex (after Græbner).

Salvia pygmæa Matsum. in Bot. Mag., Tokyo, XI. (1897), p. 71, et Ind. Pl. Jap. II. 2 (1912), p. 549.

Flowers smaller than those of *S. Ranzaniana* Makino. Stamens and style much exserted.

Nom. Jap. *Hime-tamurasó* (nov.).

Hab. Liukiu: Isl. Okinawa (*H. Kuroiwa*!), Ôgimi in Isl. Okinawa (*J. Matsumura*! herb. Sc. Coll. Imp. Univ. Tokyo, May 1897); Yaeyama Archipelago: Mt. Omoto-dake in Isl. Ishikaki (*S. Kanagusuku*! July 1911).

In size this species is like *Salvia Ranzaniana* Makino; it is probably a variety of *S. japonica* Thunb. (= *S. japonica var. intermedia* Makino).

Scirpus lacustris Linn. **var. Tabernæmontani** (Gmel.) Trautv. ex Regel in Act. Hort. Petrop. VII. (1881) p. 559.

forma albo-viridis Makino, nov.

Culm alternately and elegantly white and green; sheath and reduced blade usually also so.

Nom. Jap. *Shima-futoi.*

Hab. Prov. MUSASHI: Tokyo, cultivated (*T. Makino*!).

A garden form.

Scirpus cyperinus (Linn.) Kunth, Enum. Pl. II. p. 170.

Eriophorum cyperinum Linn. Sp. Pl. ed. 2, p. 77.

var. karuisawensis Makino.

Scirpus karuisawensis Makino in Bot. Mag., Tokyo, XVIII. (1904), p. 119.

Spikelets often glomerate.

Nom. Jap. *Ko-aburasusuki* (*T. Makino*).

Hab. Prov. SHINANO: Karuisawa (*T. Makino*! Sept. 1904).

Themeda triandra Forsk. Fl. Æg.-Arab. (1775), p. 178.

var. japonica (Willd.) Makino.

Anthistiria japonica Willd. Sp. Pl. IV. (1805), p. 901; Spreng. Syst. Veg. I. p. 291 (*Anthesteria*); Steud. Syn. Pl. Gram. p. 401.

Anthistiria arguens var. japonica Anderss. ex Miq. Prol. Fl. Jap. p. 178; Franch. et Sav. Enum. Pl. Jap. II. p. 191.

Themeda Forskalii ξ. major subvar. japonica Hack. Andropog. in DC. Monogr. Phanerog. VI. p. 662.

Themeda Forskalii var. japonica Hack. in Bull. Herb. Boiss. VII. (1899), p. 642.

Themeda triandra var. major subvar. japonica Rendle in Journ. Linn. Soc. XXXVI. p. 378.

Stipa arguens Houtt. Nat. Hist. XXXI. (1782), tab. 92, fig. 1, et Linn. Pfl.-Syst. XII. (1785), tab. 92, fig. 1, excl. descr.

Andropogon ciliatum Thunb. Fl. Jap. p. 40.

Nom. Jap. *Karukaya, Me-garukaya.*

Hab. Japan.

Arthraxon hispidus (Thunb.) Makino, nom. nov.

Phalaris hispida Thunb. Fl. Jap. (1784), p. 44; Willd. Sp. Pl. I. p. 330; Rœm. et Schult. Syst. Veg. II. p. 407.

Lasiolytrum hirtum Steud. in Flora (1846), p. 18, et Syn. Pl. Gram. p. 12.

Arthraxon ciliaris Beauv. Agrost. (1812), p. 111, tab. 11, fig. 6; Franch. et Sav. Enum. Pl. Jap. II. p. 187; Hack. in Bull. Herb. Boiss. VII. (1899), p. 642; Rendle in Journ. Linn. Soc. XXXVI. p. 359.

Arthraxon japonicus Miq. Prol. Fl. Jap. p. 176.

Nom. Jap. *Kobuna-gusa.*

Hab. Japan.

Isachne globosa (Thunb.) O. Kuntze, Rev. Gen. Pl. (1891), p. 778.

Milium globosum Thunb. Fl. Jap. (1784), p. 49; Willd. Sp. Pl. I. p. 360; Pers. Syn. Pl. I. p. 74; Rœm. et Schult. Syst. Veg. II. p. 321; Spreng. Syst. Veg. I. p. 251; Steud. Syn. Pl. Gram. p. 34.

Agrostis globosa Poir. Encycl. Suppl. I. p. 257.

Echinochloa globosa Kunth, Enum. Pl. I. p. 73.

Halopus globosus Steud. l. c. p. 99.

Eriochloa japonica Kunth, l. c. p.

Panicum antipodum Spreng. l. c. p. 314; Steud. l. c. p. 94.

Isachne australis R. Br. Prodr. Fl. Nov. Holl. I. p. 196; Kunth, Enum. Pl. I. (1833), p. 136; Benth. Fl. Austral. VII. p. 625, et Fl. Hongk. p. 414; Miq. Prol. Fl. Jap. p. 164; Franch. et Sav. Enum. Pl. Jap. II. p. 164; Hack. in Engler's Bot. Jahrb. VI. (1885), p. 50, et in Bull. Herb. Boiss. VII. (1899), p. 643, 2. Sér. IV. (1904), p. 528; Rendle in Journ. Linn. Soc. XXXVI. p. 321.

Nom. Jap. *Chigo-zasa.*

Hab. Japan.

Polypogon misere (Thunb.) Makino, nom. nov.

Festuca misera Thunb. Fl. Jap. (1784), p. 52; Willd. Sp. Pl. I. p. 427; Pers. Syn. Pl. I. p. 95; Rœm. et Schult. Syst. Veg.

II. p. 732 ; Spreng. Syst. Veg. I. p. 356 ; Kunth, Enum. Pl. I. p. 410 ; Steud. Syn. Pl. Gram. p. 315.

Polypogon Higegaweri Steud. Syn. Pl. Gram. p. 422 ; Hack. in Bull. Herb. Boiss. VII. (1899), p. 648, et 2 Sér. IV. (1904), p. 528.

Polypogon littorale Asa Gray, Pl. Jap. p. 328 ; Miq. Prol. Fl. Jap. p. 166 ; Franch. et Sav. Enum. Pl. Jap. II. p. 167, non Sm.

Nom. Jap. *Hie-gaeri.*

Hab. Japan.

Trisetum flavescens (Linn.) Beauv. Agrost. p. 88.

Avena flavescens Linn. Sp. Pl. p. 80.

Trisetum pratense Pers. Syn. Pl. I. p. 97.

var. bifidus (Thunb.) Makino.

Bromus bifidus Thunb. Fl. Jap. (1784), p. 53 ; Willd. Sp. Pl. I. p. 431 ; Rœm. et Schult. Syst. Veg. II. p. 664, in nota ; Kunth, Enum. Pl. I. p. 423 ; Steud. Syn. Pl. Gram. p. 319.

Trisetum cernuum A. Gray, Pl. Jap. p. 328, excl. syn.; Franch. et Sav. Enum. Pl. Jap. II. p. 173, non Trin.

Trisetum flavescens Miq. Prol. Fl. Jap. p. 167, excl. syn., non Beauv.

Nom. Jap. *Kanitsuri-gusa.*

Hab. Japan.

Chrysanthemum morifolium Ramatuelle in Journ. d'Histoire Naturelle, II. (1792), p. 240 ; Henry in Gard. Chron. (1902), I. p. 301, fig. 93 ; Hook. fil. Bot. Mag. sub tab. 7874, *Chrys. indicum* Linn.

a. **sinense** (Sabine) Makino.

Chrysanthemum sinense Sabine in Trans. Linn. Soc. XIV. (1825), p. 145.

Dendranthema sinensis Des Moulins in Actes Soc. Linn. Bordeaux, XX. (1855), p. 562.

Pyrethrum sinense DC. Prodr. VI. p. 62; Maxim. in Mél. Biol. VIII. p. 517.

Pyrethrum sinense γ. plenum Maxim. l. c.

Chrysanthemum sinense γ. plenum Makino, ined.

Chrysanthemum sinense var. hortensis Matsum. Ind. Pl. Jap. II. 2 (1912), p. 639.

Capitula simple, semidouble, or double, small- medium- or large-sized, variable in colour.

Nom. Jap. *Kiku.*

Hab. Japan, cultivated.

This was introduced formerly from China, and now is very commonly cultivated in gardens. The ligulate florets of a certain race (*forma edule* Makino.—Jap. *Ryôri-giku*, with yellow flowers) and the leaves of any race are edible.

β. **genuinum** Hemsley in Henry, l. c. p 301.

Chrysanthemum sinense α. spontaneum Makino in Bot. Mag., Tokyo, XXIII. (1909), p. 18.

Pyrethrum sinense α. sinense Maxim. l. c.

Chrysanthemum sinense α. sinense Makino, Ill. Fl. Jap. I. no. 8. (1891), p. 2, tab. 48.

forma japonense (Fig. XVIII.): plant attaining about 1 m. in height. Stem usually divided into 3 main branches in the middle. Leaves thick, cordate at the base, pinnati- lobed cleft or parted. Outer involucral bracts shorter, thicker, narrower, linear, scarioso-rounded tipped, densely albo-tomentose. Capitulum medium-sized, corymbosely disposed, usually many. Ligule white, equal to or shorter or longer than the diameter of the disc.

Nom. Jap. *Nodzi-giku* (Wild Chrysanthemum).

Hab. Japan, southern.

Explanation of Fig. XVIII.—**1.** Flowering branch. **2.** One of leaves. **3.** Do. **4.** Hairs on leaves. **5.** One of the capitula, with the short ligules. **6.** Do., with the long ligules. **7.** Vertical section of a capitulum. **8.** One of the involucral scales. **9.** Ligulate floret. **10.** Do. indicating the nerves of the ligule. **11.** Upper portion of the style of the ligulate floret. **12.** Tubular floret. **13.** Do. **14.** Upper portion of the style of the tubular floret. **15.** Tubular floret, the corolla laid open. **16.** Do., vertical section. **17.** Ovary, with the base of the style. **18.** Stamens and the upper portion of the style.

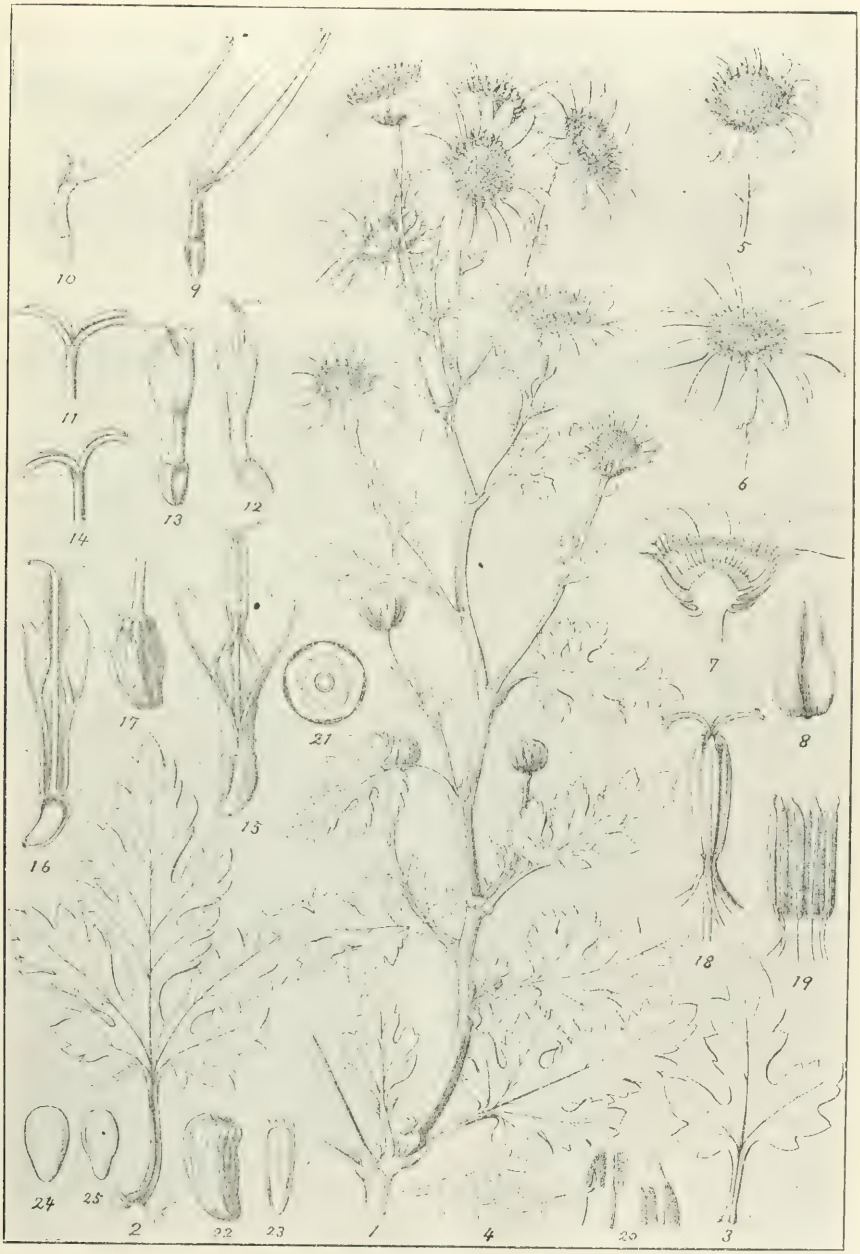

FIG. XVIII.

19. Syngenesious anthers laid open, accompanied by the filaments. 20. Basal and apical portions of the anthers. 21. Floral diagram of the tubular floret. 22. Achænium. 23. Do., vertical section. 24. Embryo. 25. Do., oblique view. 1, 2, 3, 4, 5 and 6 reduced, others magnified. This figure is taken from my "*Illustrations of the Flora of Japan*" vol. I. no. 8, pl. XLVIII, and reduced than the original size.

Lonicera japonica Thunb. Fl. Jap. p. 89.

var. Miyagusukiana Makino, var. nov.

Stem scandent, terete, thinly puberulent, badio-castaneous; branches terete, gracile, subtomentoso-puberulent with curved and adpressed short hairs, densely foliiferous throughout. Leaves small, opposite, short-petiolate, ovato-oval to ovato-oblong, mucronato-rounded at the apex, obtuse at the base, entire and very thinly ciliolated below on margin, glabrous but very thinly puberulent on the midrib on both surfaces, coriaceous, green and shining and impressed-veined above, paler and loosely reticulate-veined beneath, 8–27 mm. long, 5–15 mm. wide; midrib prominent beneath; veins few on each side, very loose, erect-patent, connate above; veinlets loose. Peduncle axillary, 2-flowered, extremely short (subsessile), puberulent and glandular among hairs; bracts 2, opposite, short-petiolate, erect-patent, oblong-lanceolate, ovato-oblong, or narrowly oblong, acute on both ends, entire, coriaceous, nearly glabrous, 4–6½ mm. long, the petiole thinly puberulent, 1–2 mm. long; bracteoles 4, squamiform, subulate or ovato-subulate, obtuse- or acutish-tipped, thick, ciliated and glandular on margin, often thinly puberulent dorsally, 1⅔–2 mm. long. Flowers sessile, about 2½ cm. long, odoriferous? Calyx 2 mm. long; lobes 5, erect and adpressed on the corolla-tube, connate into a short tube at the base, broadly linear, obtuse at the apex, entire, ciliated and glandular on margin, very thinly puberulent or nearly glabrous dorsally, thick. Corolla narrow, bilabiate and parted down to the middle, puberulent with deflexed hairs and glandular externally on the tube and the lower portion of the limb, glabrous internally; tube narrow, terete; limb: outer lip broader and cuneate, 4-lobed at the

top, the middle sinus more shallow than the lateral sinuses, lobes elliptical in the middle one and oblong in the lateral 2, rounded at the apex; lower lip as long as the upper lip, simple, then recurved, linear, rounded at the apex. Stamens 5, inserted on the throat of the corolla, nearly as long as the corolla; filament filiform, glabrous; anther broadly linear, $2\frac{1}{2}$–3 mm. long. Style equal to the stamen in height, filiform, glabrous; stigma capitate. Ovary shortly obovoid, glabrous, $1\frac{1}{2}$ mm. long, 3-celled, thick-walled, with the rather thin dissepiments, few-ovuled in each cell.

FIG. XIX.

a, c. mag. b. nat. size.

Nom. Jap. *Hime-suikadzura* (nov.).

Hab. LIUKIU (*H. Kuroiwa*!; *S. Kanagusuku*!).

It appears at the first sight to be a distinct species but is a variety of *L. japonica* Thunb. The leaves are smaller denser and thicker, and the flower smaller.

Lonicera shikokiana Makino, sp. nov. (Fig. XIX.)

Lonicera cerasina Maxim. in litt., non Mél. Biol. X. p. 64. (1877).

A deciduous shrub; branches et branchlets terete, glabrous, pale-drab, branchlets often opposite, erect-patent, the base of young branchlet, which are green, with the bud-scales; scales imbricated, glabrous but ciliated on margin, lower ones smaller and depressed-deltoid, middle ones deltoid to semiorbiculato-deltoid or ovate, upper ones larger, thinner, elliptical to spathulate, membranaceous, the innermost one much larger and often spathulato-linear, attaining about 15 mm. long. Leaves opposite, petiolate, oblong to oblong-lanceolate, sometimes lanceolate, long-acuminate with an obtuse or acute point, usually acute or sometimes obtuse and not oblique at the base, entire and ciliated with erect-patent hairs, thinly membranaceous, concolorous, glabrous on both surfaces but thinly pubescent towards the margin above, and very thinly and minutely glandular on the midrib as well as the lower portion of the lower veins above, $2\frac{1}{2}$–$7\frac{1}{2}$ cm. long and $\frac{2}{3}$–$3\frac{1}{3}$ cm. broad in flower; veins 4–8 on each side, delicate, erect-patent, arcuate upwards; veinlets inconspicuous; petiole erect-patent canaliculate and very thinly glandular in front, glabrous dorsally, 3–9 mm. long. Peduncle axillary, arising from the lower portion of the branchlets of this year, gracile, glabrous, green, 5–9 mm. long; bracts erect-patent, filiform-linear, acute, thin, subhyaline, entire and thinly glanduloso-ciliated, 1–nerved, longer than the ovary, 3–4 mm. long; bracteoles closely adpressed on the face of ovaries, 4 and greatly connate in the lateral sides but slightly connate in the front and back, as long as or somewhat shorter than the ovary, oval, rounded at the apex, entire, concave, loosely 1–2–nerved, glandular-ciliated on margin and thinly glandular towards the margin internally, glabrous externally, thinly herbaceous. Flowers geminate, sessile, coetaneous, about 11–12 mm. long. Calyx minute, very thin, meniscoid, very short, 4–lobed with semiorbiculato-deltoid or semiorbiculate obtuse- or acutish-tipped teeth and widely open sinuses, glabrous but

glanduloso-ciliated on margin, enerved, $\frac{1}{2}$ mm. long, 1–1$\frac{1}{3}$ mm. across. Corolla sulphureous, bilabiate, parted down more than the middle, thinly pubescent on the throat and tube except the basal portion internally, very minutely ciliated towards the apex of lobes, otherwise glabrous; limb: upper lip broad, suborbiculate, about 5 mm. broad, shortly 3–4–lobed, lobes ovato-oval or oval-orbicular, rounded at the apex, with close sinuses, then reflexed dorsally; lower lip narrowly oblong, obtuso-rounded or subtruncato-rounded at the apex, entire, about 2$\frac{1}{3}$ mm. broad; tube short, oblong, contracted at the very base, lunately subgibbose on the external side above the base, about 3 mm. long. Stamens 5, inserted at the throat, a little exserted or slightly lower than the corolla or about one-half as long as the limb; filament stout-filiform, glabrous, longer or sometimes shorter than the anther; anther linear, yellow, about 2 mm. long. Style filiform, glabrous, as long as or longer than the stamens in height; stigma large, fungiform-capitate. Ovaries small, ellipsoid or ovoid-ellipsoid, sometimes short-attenuated at the top, glabrous, both ones connate at the base or to the middle, 2–2$\frac{1}{3}$ mm. long, 2–celled, 2–ovuled in each cell. Berry globose, scarlet.

Nom. Jap. *Usuba-hyôtamboku* (Kimei Fudzino).

Hab. Prov. Tosa: Mt. Yokogura (*T. Makino*!), Nanokawa (*K. Watanabe*!); Prov. Awa in Shikoku: Mt. Kôtsu in Oyegôri (*D. Nikai*! herb. Sc. Coll. Imp. Univ. Tokyo).

A species very closely allied to *Lonicera cerasina* Maxim. having the very thin leaves. It belongs to the subgenus *Chamæcerasus*, section *Isoxylosteum*, subsection *Cerasinæ*.

Rhamnus Kanagusukii Makino, sp. nov.

A shrub, glabrous. Branches terete, cinereously drab-brown; branchlets dense, alternate or opposite, patent or erect-patent, often spinose at the apex. Leaves small, alternate or fasciculate, very shortly petiolate, oblong to lanceolate or spathulate, obtuse or emarginate at the apex, acute or cuneate at the base, entire or obscurely crenate, very slenderly revolute on margin beneath when dry, coriaceous, 6–24 mm. long, 3–9

mm. broad; midrib prominent beneath; veins few (2–4) on each side, erect-patent, arcuate upwards, delicate; petiole 1–4 mm. long. Flower..... Fruit small, globose, glabrous, about 4 mm. across, provided with a persistent rounded calyx-tube at the base; pedicel gracile, glabrous, about 5–5½ mm. long.

Nom. Jap. *Hime-kuroumemodoki* (nov.).

Hab. Liukiu: Mansamô at the foot of Mt. Onna in Isl. Okinawa (*Saburô Kanagusuku*! July 5, 1910).

A species having the smallest leaves among the Japanese *Rhamni*.

(*To be continued.*)

A List of Plants collected in Hang-chou, Cheh-kiang, by K. Honda.

by

S. Matsuda.

Mr. K. Honda[1] made a collection of plants in Hang-chou, Cheh-kiang, where he stayed for some years, and was engaged in the education of the native. The plants were collected in 1909–1910, as the labels show, and this collection was placed in my disposal through the kindness of Mr. K. Nemoto.[2] Shortly before this time, two other gentlemen K. Mori[3] and K. Sudzuki[4] also collected plants in Hang-chou, and I was fortunate to examine them. Here, I must not forget to mention that the first Japanese who botanized there was Mr. C. Owatari ;[5] but unfortunately I have not seen his collection except a very few specimens.

So far as I know, Honda's collection is perfect comparatively, and the present list is the result of the examination of this material. The list contains about 460 species, of which a few are new to the flora of China, and for a few others I had to propose new names. The following are the names of these two kinds of plants : *Ilex Buergeri* Miq. ; *Lonicera japonica* Thunb., *f. macrantha* f. n. ; *Crepis japonica* Benth., *f. foliosa* f. n. ; *Lactuca Matsumuræ* Makino ; *Lampsana parviflora* A. Gr. ; *Vaccinium Donianum* Wight, *var. hangchouense* n. v. ; *Dysophylla Yatabeana* Makino ; *Mosla hangchoensis* n. sp. ; *Polygonum virginicum* L., *f. glabratum* f. n. ; *Boehmeria holosericea* Bl. ; and *Ischæmum Hondæ*. n. sp.

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(1) 本多厚二　(2) 根本莞爾　(3) 森惠梁　(4) 鈴木珪壽　(5) 太渡忠太郎

Some specimens in the collection seem to have been taken from cultivated plants, but as I could not ascertain the fact I do not say anything of it in my list. All the minor localities where some plants were collected are indicated in the list, as I think most of these places have some historical interest, though their botanical importance may be slight.

Here I express my sincere thanks to Mr. Honda who made this interesting collection, and to K. Nemoto throngh whom the material came within my reach. Also my thanks to my senior and the fellow-botanists who helped me while I was studying these plants.

S. Matsuda.

June, 1912.

I. Ranunculacæ.

1. **Clematis recta** L. ?

Ken-shan-mun (艮山門), Oct., (no. 69).

var. mandshurica (Rupr.) Max. in Mél. Biol. IX. 594; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 7; Diels in Engl. Bot. Jahrb. XXIX. 332.

Feng-wang-shan (鳳凰山), Mai., (nos. 1286, 1287).

2. **Delphinium anthriscifolium** Hance in Journ. Bot. (1868), 207; Forb. et Hemsl. l.c. 19; Diels l. c. 327.

San-tai-shan (三臺山), Apr., (no. 1037–1040).

Nom. Jap. *Seriba-hiensō*.

3. **Ranunculus acris** L.; Forb. et Hemsl. l.c. 13; Diels l.c. 334.

Ghi-tsen (玉泉), Apr., (no. 987); Ling-yin (靈隱), Apr., (nos. 919, 922, 923); Ken-shan mun (艮山門), Aug., (no. 561).

Nom. Jap. *Kin-pō-ge* (金鳳花).

4. **R. aquatilis** L.; Forb. et Hemsl. l. c. 13; Diels l.c. 334.

Bong-chan-mun (望江門), mai., (nos. 1210, 1211).

Nom. Jap. *Umebachi-mo*.

This species is very variable; here I do not intend to distinguish various forms.

5. **R. sceleratus** L.; Forb. et Hemsl. l. c. 16; Diels l. c. 334.

Kong-tsen-chau (拱宸橋), Apr., (no. 889); Lei-tung-tang (雷峰塔), Apr., (no. 976).

Nom. Jap. *Tagarashi* (石龍芮).

6. **R. ternatus** Thunb.; Forb. et Hemsl. l. c. XXIII. 16; Diels l. c. 334.

Ku-shan (孤山), Apr., (nos. 962, 963); Ching-tai-mun (清泰門), Apr., (nos. 947, 954).

Nom. Jap. *Hiki-no-kasa.*

II. **Menispermaceæ.**

7. **Cocculus trilobus** (Thunb.) DC.; Diels in Engl. Pfl. Reich, Menispermac. 232; =*C. Thunbergii* DC.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 28; Diels in Engl. Bot. Jahrb. XXIX 345.

Tai-pin-mun (太平門), Sept., (no. 35); Ku-shan (孤山), Oct., (nos. 732, 1351, 1351).

Nom. Jap. *Ao-tsuzura-fuji.* (木防己).

III. **Lardizabalaceæ.**

8. **Akebia quinata** Decne.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 30; Diels in Engl. Bot. Jahrb. XXIX. 344.

Chi-ling (葛嶺), Apr., (no. 973); Lei-fung-tang (雷峰塔), Apr., (no. 978).

Nom. Jap. *Akebi.*

IV. **Papaveraceæ.**

9. **Bocconia cordata** Willd.; DC. Prodr. I. 121; Bot. Mag. t. 1905; Forb. et Hemsl. l. c. 35; =*Macleya cordata* (Willd.) R. Br.; Diels l. c. 353.

Chiu-you-shan (九曜山), Jun., (no. 1363).

Nom. Jap. *Takenigusa.*

10. **Corydalis incisa** Pers.; DC. Prodr. I. 127; Forb. et Hemsl. l. c. 37; Diels. l. c. 355.

Tsen-tang-mun (錢塘門), Apr.. (no. 1023); Yu-ching-mun (湧金門), Oct. ?, (no. 777); Ching-po-mun (清波門), Apr., (nos. 901, 903); Ku-shan (孤山), Apr., (no. 967).

Nom. Jap. *Murasaki-keman.*

11. **C. racemosa** Pers.; DC. Prodr. I. 129; Fr. et Sav. Enum. Pl. Jap. II. 275; Diels. l. c. 355.

Yi-po (一堡), Apr., (no, 990).

This species is closely allied to *C. pallidu* Pers. Franchet distinguishes these two as follows:

Bracts setaceous, corolla 1 cm. long. . . . C. racemosa.

Bracts ovate, toothed, corolla 1.8–2 cm. long. C. pallida.

Hemsley states he is unable to sort satisfactorily numerous specimens into the two species. The present specimen seems to agree with what Franchet distinguishes as *C. racemosa.*

11. **C. Sheareri**? S. Moore in Journ. Bot. (1875) 225.

Tsen-tang-mun (錢塘門), Apr., (nos. 945, 957).

V. Cruciferæ.

12. **Arabis Thaliana** L.; Sow. Eng. Bot. I. t. 115; Boiss. in Bull. Herb. Boiss. (1899) 789; = *Sisymbrium Thalianum* Gay.; Gray Synop. Fl. Amer. I. 140; = *A. pubicalix* Miq. Prol. 4; Iinuma, Somoku-zusetsu XII. fol. 13.

Ken-shan-mun (艮山門), (no. 944), Apr., (no. 883); Kong-tsen-chou (拱宸橋), Apr., (no. 895).

Nom. Jap. *Shiro-inu-nazuna.*

13. **Brassica campestris** L.?

Bong-chan-mun (望江門), Mar., (no. 886); Ching-tai-mun (清泰門), Mar., (no. 885).

14. **Capsella Bursapastoris** Moench.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 48; Diels in Engl. Bot. Jahrb. XXIX. 358.

Tsen-tang-mun (錢塘門), Feb., (no. 943); Ken-shan-mun (艮山門), Oct., (no. 805).

Nom. Jap. *Nazuna.* (薺).

15. **Cardamine flexuosa** Withering; Schulz in Engl. Bot. Jahrb. XXXII. 473; = *C. hirsuta* L. *subsp. flexosa* Withering; Forb. et Hemsl. l. c. XXIII. 43.

Ya-feng (岳墳), Apr., (no. 959–961); Ken-shan-mun (艮山門), Mar., (no. 927); Ching-tai-mum (清泰門) ——, (no. 942); Ghi-tsen (玉泉), Apr., (no. 879); Wu-lin-mun (武林門), Apr., (no. 920).

Distinguished from *C. hirsuta* L.:

Leaves 1–3–jugate, flowering pedicel 1.5–2 mm. long. . . . C. hirsuta L.

Leaves 4–6–jugate, flowering pedicel 3–4 mm. long. . . . C. flexuosa Withering.

16. **C. Impatiens** L.; Forb. et Hemsl. l. c. 43; Diels in Engl. Bot. Jahrb. XXIX. 358.

San-tai-shan (三臺山), Apr., (no. 1028).

Nom. Jap. *Janinjin.*

17. **C. lyrata** Bunge; Forb. et Hemsl. l. c. 43; Iinuma, *Somoku-zusetsu* XII. fol. 7.

Lung-ching (龍井), Apr., (no. 1049).

Nom. Jap. *Midzu-tagarasi.*

18. **C. macropylla** Willd.; DC. Prodr. I. 152; Max. in Mel. Biol. IX. 10. Forb. et Hemsl. l.c. XXIII. 43; =*Dentaria dasyloba* Turcz.; Diels l. c. 358.

Yen-ya-dong (烟霞洞), Apr., (no. 178).

Nom. Jap. *Konron-so.*

19. **Cardamine**?

Herb annual, pilose; leaves alternate, long-petiolate, deltoid, acute, or acuminate, cordate at base, inciso-dentate; raceme elongated, flowers white, pedicellate, sepals oblong, pubescent; petals pubescent, emarginate, narrowed towards base, stamens 6; fruit (immature) linear.

Kong-yuan (貢院), Oct., (no. 722); Pi-lai-fung (飛來峰), Apr., (nos. 966, 968, 970).

20. **Moricandia sonchifolia** Hook. f. Bot. Mag. t. 6243; Forb. et Hemsl. l. c. XXIII. 47.

Wu-shan (吳山), Apr., (nos. 951, 964, 965, 1138).

21. **Nasturtum globosum** Turcz.; Forb. et Hemsl. l. c. 39; Diels. l. c. 357.

Ken-shan-mun (艮山門), Oct., (nos. 749, 778, 817); Ku-shan (孤山), Oct., (no. 3); Tai-pen-mun (太平門), Oct., (No. 790).

22. **N. indicum** DC.; Hook. f. Fl. Brit. Ind. I. 134; Forb. et Hemsl. l. c. 40.

Wu-lin-mun (武林門), Oct., (no. 384); Ken-shan-mun (艮山門), Oct., (no. 134).

23. **Rhaphanus sativus** L.; Forb. et Hemsl. l. c. 50; Diels l. c. 357.

Bong-chan-mun (望江門), Apr., (nos. 857, 984).

Nom. Jap. *Daikon.* (萊菔).

VI. **Violaceæ.**

24. **Viola diffusa** Gingins in DC. Prodr. I. 298; Hook. f. Fl. Brit. Ind. I. 183; Benth. Fl. Hongk. 20; Max. in Mél. Biol. IX. 735; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 52; Diels in Engl. Bot. Jahrb. XXIX. 477; Matsum. et Hayata, Enum. Pl. Formos. 28; Makino in Bot. Mag. Tokyo. XIX. 73; =*V. Kiushiana* Makino in Bot. Mag. Tokyo. XVI. 138.

Yi-po. (一堡), Apr., (no. 991).

Nom. Jap. *Tsukushi-smire.*

25. **V. japonica** Langsd.; DC. Prodr. I. 295; Max. in Mél. Biol. IX. 724; Forb. et Hemsl. l. c. 53.

Ken-shan-mun (艮山門), Oct. (Nos. 194, 640, 738, 773).

Nom. Jap. *Kosumire.*

26. **V. Patrinii** DC. Prodr. I. 293; Max. in Mél. Biol. IX. 721; Forb. et Hemsl. l. c. 53; Diels l. c. 476.

Nom. Jap. *Sumire.*

VII. **Polygalacæ.**

27. **Polygala sibirica** L.; DC. Prodr. I. 324; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 61; Diels in Engl. Bot. Jahrb. XXIX. 426; =*P. japonica* DC.

Lung-ching (龍井), Apr., (No. 1021).

Nom. Jap. *Himehagi.*

The present specimens seems to be of the form called *japonica*, the two petaloid sepals "wings" being oblong and not mucronated.

VIII. Caryophyllaceæ.

28. **Arenaria serpyllifolia** L. ; DC. Prodr. I. 411 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 70 ; Diels in Engl. Bot. Jahrb. XXIX. 321.

Ken-shan-mun (艮山門), Mai., (No. 1229) ; Yi-po (一堡), Apr., (no. 993) ; Lo-po (六堡), Apr., (no. 861).

Nom. Jap. *Nomi-no-tsuzuri.*

The specimen is probably of *var. leptoclados* (Guss) Reichb. as Franchet states of it in Enum. Pl. Jap. I. 52 : "bien caractérisé par sa capsule ovale conique dépassant à peine le calice."

29. **Cerastium triviale** Link. ; Forb. et Hemsl. l. c. 67 ; Diels l. c. 320 ; (Sow. Eng. Bot. t. 790 ?).

Fong-shan-mun (鳳山門), Apr., (nos. 858, 859) ; Yu-Ching-mun (湧金門), Apr., (no. 1070).

30. **Dianthus superbus** L. ; DC. Prodr. 1.365 ; Forb. et Hemsl. l. c. 64 ; Diels 319.

Ku-shan (孤山), Oct., (nos. 18, 405).

Nom. Jap. *Kawara-nadeshiko.*

31. **Sagina Linnaei** Presl. ; Fzl. in Ledeb. Fl. Ross. I. 339 ; Max. in Mél. Biol. IX. 32 ; Forb. et Hemsl. l. c. ; Diels l. c. 321 ;

var. maxima (A. Gr.) Max. l. c. ; Fr. Pl. David. 50.

Ken-shan-mun (艮山門), Apr., (no. 1157).

Nom. Jap. *Tsume-kusa.*

The present specimen, as well as Japanese plants of the species seems to be of var. *maxima*, being taller and slightly pubescent. The type (not seen) is described as perfectly smooth by Ledebour, (l. c.).

32. **Silene aprica** Turcz. ; Forb. et Hemsl. l. c. 64 ;

var. *α.* **typica** Rohrb. **lusus** 2. Rohrb. in Linnæa XXXVI. 684.

Chi-ling (葛嶺), April, (no. 1147).

33. **Stellaria aquatica** Scop ; Benth. Fl. Hongk. 21 ; Forb. et Hemsl. l. c. 67 ; Diesl. l. c. 319 ;=*Malachium aquaticum* Fries ; Max. in Mél. Biol. IX. 54.

Kong-yuan (貢院), Sept., (no. 520); Ken-shan-mun. (艮山門), Sept., (nos. 439, 567); Oct., (nos. 593, 596).

Nom. Jap. *Ushi-hakobe.*

34. **S. media** Cyr.; Benth. Fr. Hongk. 21; Max. in Mél. Biol. IX. 42; Forb. et Hemsl. l. c. 68.; Diels. l. c. 319.

Ken-shan-mun (艮山門), Apr., (nos. 96, 934).

Nom. Jap. *Hakobe.*

35. **S. uliginosa** Murr.; Benth Fl. Hongk. 22; Forb. et Hemsl. l. c. 69; Diels l. c. 320.

Ken-shan-mun (艮山門), Mar., (no. 935).

Nom. Jap. *Nomi-no-fusuma.*

IX. **Portulacaceæ.**

36. **Portulaca oleracea** L.; DC. Prodr. III. 353; Benth. Fl. Hongk. 127; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 71.

Ken-shan-mun (艮山門), Aug., (no. 416); Nov., (no. 542); Tai-pin-mun (太平門), Oct., (no. 426).

Nom. Jap. *Suberi-hiyu* (馬齒莧).

X. **Ternstroemiaceæ.**

37. **Actinidia** sp.

Shrub scandent, aged branches dark colored, verruculose, young ones thinly hairy; leaves alternate, long petiolate (2 cm. long), subcoriaceous, ovate, (4–8 × 3.5–4.5 cm.), abruptly acuminate, nearly round and very slightly oblique at base, ciliato-serrulate, dark colored above, pale beneath, a few upper ones partly etiolated; peduncle axillary, gracile, slightly exceeding the petiole, unbranched or rarely tending to branch and form a simple cyme, bearing 2 minute, lanceolate bracts, a little above the middle; flowers white, 1.5 cm. across, sepals suborbirular, submucronate, petals elliptical, with subcrenulate margin, the inner ones very shortly clawed; stamens numerous, filament filiform, anthers versatile, oblong, 2–celled, yellowish brown; ovary subglobose, smooth, style very thick, short, its branches about 10.

This species is allied to *A. melandra* Fr., but differs from it in having yellow anthers, and the peduncles longer than the petiole. It also differs from *A. trichogyne* Fr. in having smooth ovary.

Ling-yin (靈隱). Mai., (nos. 1317, 1318).

38. **Thea sinensis** L.; Diels in Engl. Bot. Jahrb. XXIX. 472; =*Camellia Thea* Link.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 82.

Wu-lin-mun (武林門), Oct., (nos. 708, 715).

XI. **Malvaceæ.**

39. **Abutillon Avicennæ** Gaertn.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 86; =*Sida Abutilon* L.; DC. Prodr. I. 470.

Wu-lin-mun (武林門), Oct., (no. 673); Ching-tai-mun (清泰門), Nov., (190); Tai-pin-mun (太平門), Aug., (no. 838); Oct., (nos. 68, 691).

Nom. Jap. *Ichibi* (苘麻).

40. **Hibiscus syriacus** L.; DC. Prodr. I. 695; Mast. in Hook. f. Fl. Brit. Ind. I. 344; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 88; Diels in Engl. Bot. Jahrb. XXIX. 469.

Tai-pin-mun (太平門), Oct. fr., (nos. 41, 447, 449);——fl., (no. 115).

Nom. Jap. *Mukuge* (木槿).

41. **Malva verticillata** L.; DC. Prodr. I. 433; Mast. in Hook. f. Fl. Brit. Ind. I. 320; Forb. et Hemsl. l. c. 84; Diels l. c. 469.

Ken-shan-mun (艮山門), Oct., (no. 823); Yu-ching-mun (湧金門), Nov., (no. 658); Yi-po (一堡), Mai., (no. 1339–1341).

Nom. Jap. *Fuyu-aoi.*

XII. **Tiliaceæ.**

42. **Corchoropsis crenata** Sieb. et Zucc.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 94; Diels in Engl. Bot. Jahrb. XXIX. 467.

Ku-shan (孤山), Oct., (nos., 4, 180, 621); Ken-shan-mun (艮山門), Aug., (nos. 324, 325, 476, 477), Sept., (no. 321); Tai-pin-mun (太平門), Aug., (no. 120); Ya-feng (岳墳), Aug., (no. 128); Ching-tai-mun (清泰門), Sept., (no. 375); Yu-ching-mun (湧金門), Oct., (no. 620).

Nom. Jap. *Karasu-goma.*

XIII. Geraniaceæ.

43. **Oxalis corniculata** L.; DC Prodr. I. 692; Benth. Fl. Hongk. 56; Gray et Watson, Synop. Fl. 2. 365; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 99; Diels in Engl. Bot. Jahrb. XXIX. 420.

Ken-shan-mun (艮山門), Aug., (nos. 498, 499); Oct., (no. 96).

Nom. Jap. *Katabami.*

This is distinguished from an allied species *O. stricta* L. by having stipule at the base of the petiole, while this is wanting in *O. stricta.*

XIV. Rutaceæ.

44. **Citrus nobilis** Lour.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 111.

Chin-tang-wan (鎮塘灣), Mai., (Nos. 1311, 1312).

Nom. Jap. *Mikan* (柑).

45. **Zanthoxylum alatum** Roxb.; Hook. f. Fl. Brit. Ind. I. 493; Forb. et Hemsl. l. c 105; =*Z. planispinum* Sieb. et Zucc. in Fl. Jap. Fam. Nat. 30; Diels in Engl. Bot. Jahrbr. XXIX. 421.

Chi-ling (葛嶺), Apr., (no. 1144).

Nom. Jap. *Fuyu-sansho.*

46. **Z. Bungei** Planch.; Forb. et Hemsl. *l.* c. 106; Diels l. c. 421; =*Z. Bungeanum* Max. in Mél. Biol. VIII. pp 2 et 372.

Wu-shan (吳山), Apr., (nos. 1139, 1152).

XV. Meliaceæ.

47. **Cedrela sinensis** A. Juss.; C. DC. Monogr. Phanerog. I. 743; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 114.

Nan-kau-fung (南高峰), Apr., (no. 1050).

Nom. Jap. *Chan-chin* (椿).

Leaves not fully developed; determination unsatisfactory.

48. **Melia Azedarach** L.; C. DC. Monogr. Phanerog. I. 451; Forb. et Hemsl. 113; Diels in Engl. Bot. Jahrb. XXIX. 426.

Pon-shan (半山), Mai., (no. 1371).

Nom. Jap. *Sendan.*

This is distinguished from an allied species *M. Toosendan* Sieb. et Zucc.:

Ovary 5–celled, leaflets serrate. . . . . *M. Azedarach.*

,, 6–8–celled, leaflets entire. . . . . *M. Toosendan.*

XVI. **Ilicineæ.**

49. **Ilex Buergeri** Miq. in Ann. Mus. Bot. Lugd.–Bat. III. 106.

Yan-mei-ling (楊梅嶺), Apr., (no. 1032–1034).

This is new to the Chinese Flora.

50. **I. cornuta** Lindl. et Paxt.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 115; Diels in Engl. Bot. Jahrb. XXIX. 436; Bot. Mag. t. 5059.

Chi-ling (葛嶺), Sept., (no. 27); Oct., (nos. 784, 788); Yen-ye-dong (烟霞洞), Apr., (no. 1089).

51. **I. rotunda** Thunb. Fl. Jap. 77; DC. Prodr. II. 16; Forb. et Hemsl. l. c. 118.

Ching-tai-mun (清泰門), Oct., (no. 49).

Nom. Jap. *Kurogane-mochi.*

XVII. **Celastraceæ.**

52. **Celastrus orbiculata** Thunb. Fl. Jap. p. XLII. et 97 (ubi errore typographico "articulata" nominata); Loesener in Engl. Bot. Jahrb. XXX. 468; = *C. articulata* Loes.; Diels in Engl. Bot. Jahrb. XXIX. 446. pro parte.

Tin-cha-shan (丁家山), Mai., (no. 1256).

Nom. Jap. *Tsuru-umemodoki.*

53. **Enonymus Hamiltoniana** Wall. ; Loesener l. c. 461 ;= *E. Europaea* L. *var. Hamiltoniana* (Wall.) Max ; Diels l. c. 443.

Tsu-yun-dong (紫雲洞), Oct., (no. 64) ; Yu-ching-mun (湧金門), Oct., (nos. 670, 754) ; Chi-ling (葛嶺), Oct., (no. 787) ; Tin-cha-shan (丁家山), Mai., (nos. 1258, 1289).

Nom. Jap. *Mayumi.*

54. **E. radicans** Sieb. ?

Fr. et Sav. Enum. Pl. Jap. I. 79 ;=*E. Japonicus* Thunb. *var. β. radicans* Miq. Prol. 18 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 120.

Ku-shan (孤山), Oct., (nos. 727, 731).

Nom. Jap. *Tsuru-masaki* ?

55. **E.** sp.

Shrub erect, smooth, branching, branchlet dark brown ; leaves opposite, petiolate, (petiole 2–3 mm.), obovato-oblong, rounded or cuneate at base, abruptlly acuminate, mucronulato-serrulate, primary nerves 5 or 6 on each side, nervations subconspicuous, peduncles axillary or extra-axillary, opposite, filiform, about 1 cm. long, simple, articulate below the middle ; fl. minute, spepals 4, petals 4, orbicular, disk conspicuons ; fr.....

Ghi-wang-shan (玉皇山), Mai., (nos. 1163, 1189).

XVIII. **Rhamnaceæ.**

56. **Microrhmnus franguloides** Max. in Mém. Acad. Sc. Pétersb. 7 série X. (*reprint* p. 4) ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 127 ;=*Rhamnella franguloides* Weberb. ; Diels in Engl. Bot. Jahrb. XXIX. 458 ;=*Berchemia congesta* S. Moore in Journ. Bot. (1875) 226.

San-tai-shan (三台山), June, (1378).

Nom. Jap. *Neko-no-chichi.*

57. **Rhamnus parvifolius** Bge. ; Forb. et Hemsl. l. c. 129 ; Diel. l. c. 459.

Ku-shan (孤山), Apr., (no. 1148) ; (吳山), Apr., (nos. 1121, 1128).

58. **Sageretia theesans** Brongn. ; Benth. Fl. Hongk. 68 ; Hook. f. Fl. Brit. Ind. 1.641 ; Forb. et Hemsl. l. c. 131.

Ya-feng (岳墳), Sept., (no. 476); Chi-ling (葛嶺), Oct., (no. 264); Tai-pin-mun (太平門), Mai., (nos. 1176, 1177).

Nom. Jap. *Kuroige.*

XIX. **Ampelideæ.**

59. **Cissus japonica** (Thunb.) Willd.; DC. Prodr. I. 632; Diels in Engl. Bot. Jahrb. XXIX. 466; =Vitis Japonica Thunb.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 134.

Ken-shan-mun (艮山門), Aug., (no. 518); Oct., (nos. 102, 591).

Nom. Jap. *Binbo-katsura.* (烏蘞莓).

60. **Vitis heterophylla** Thunb. Fl. Jap. 103; Benth. Fl. Hongk. 53; Forb. et Hemsl. l. c. 133; =*Ampelopsis heterophylla* Sieb. et Zucc.; Planch in DC. Monogr. V. 2 et 455.

Swi-shing-kau (水星閣), Sept., (no. 431), Oct., (no. 443).

Nom. Jap. *Nobudō.*

61. **V. inconstans** Miq. in Ann. Mus. Bot. Lugd.-Bat. I. 91; Forb. et Hemsl. l. c. 133.

Chi-ling (葛嶺), June, (no. 1331); Oct., (no. 785).

Nom. Jap. *Tsu-ta.*

62. **V. lanata** (?) Roxb. Fl. Ind. I. 660.

Ku-shan (孤山), Mai., (nos. 1349, 1352).

A specimen from Forbes named *V. lanata* Roxb. is indentical with the present one.

63. **V. serianaefolia** Max. in Mél. Biol. IX. 149; Forb. et Hemsl. l. c. 136; =*Ampelopsis serjaniifolia* Regel.; Diels l. c. 466; *A. japonica* (Thunb.) Makino in Bot. Mag. Tokyo, XVII. 113.

Wu-shan (吳山), Apr., (nos. 1136, 1137); Mai., (no. 1244).

Nom. Jap. *Kagami-gusa.* (白薇).

64. **V.** sp.

Ching-tai-mun (淸泰門), Mai., (no. 1227).

The specimen seems to be allied to *V. inconstans*, but tendrils have no tendencey to produce sucker. Flower is not fully developed. Leaves simple, ovato-triangular, submembranaceous, subtrilobed, gross-dentate, subcordate at base.

XX. Sapindaceæ.

65. **Acer palmatum** Thunb.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 141; Diels in Engl. Bot. Jahrb. XXIX. 448.

Ku-shan (孤山), Mai., (nos. 1245, 1246).

Nom. Jap. *Yama-momiji.*

66. **A. tataricum** L. **var. Ginnala** Max. Fl. Amur. 67, Mél. Biol. X. 604; = *A. Ginnala* Max. in Mél. Biol. II. 415; Pax. in Engl. Pfl. Reich, Heft 8 (Aceraceæ) 12.

Lei-fung-tang (雷峰塔), Jun., (nos. 1347, 1348); Ghi-tsen (玉泉), Jun., (nos. 1181, 1182, 1183).

Nom. Jap. *Karakogi-Kaede.*

67. **Euscaphis japonica** (Thunb.) Pax in Engl. et Prantl, Natürl. Pfl. Fam. III. 5 (1893) 262; Diels in Engl. Bot. Jahrb. XXIX. 448; = *E. staphyleoides* Sieb. et Zucc.; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 143.

Tin-cha-shan (丁家山), Mai., (no. 1209).

Nom. Jap. *Gonzui* (野鵐椿).

(*To be continued.*)

A New Exobasidium-Disease

of

the Tea-Plant.

by

S. Ito. and K. Sawada.

In May of the last year, one of the authors received a diseased specimen of the tea plant (*Thea sinensis* L.) from Mr. T. HANZAWA, who had collected it in Prov. Suruga. He and Mr. M. KAJI kindly informed us, that it is one of the most serious enemies of the tea planters throughout the province, and that it appears early in season when the tea-leaves are just unfolding. They also wrote that the loss on the first picking due to this disease was estimated at about 20% in the districts of Abe and Ihara. Some tea plantations in the same districts were affected with this disease to such an extent, that hardly any young leaf is completely free from the diseased spots.

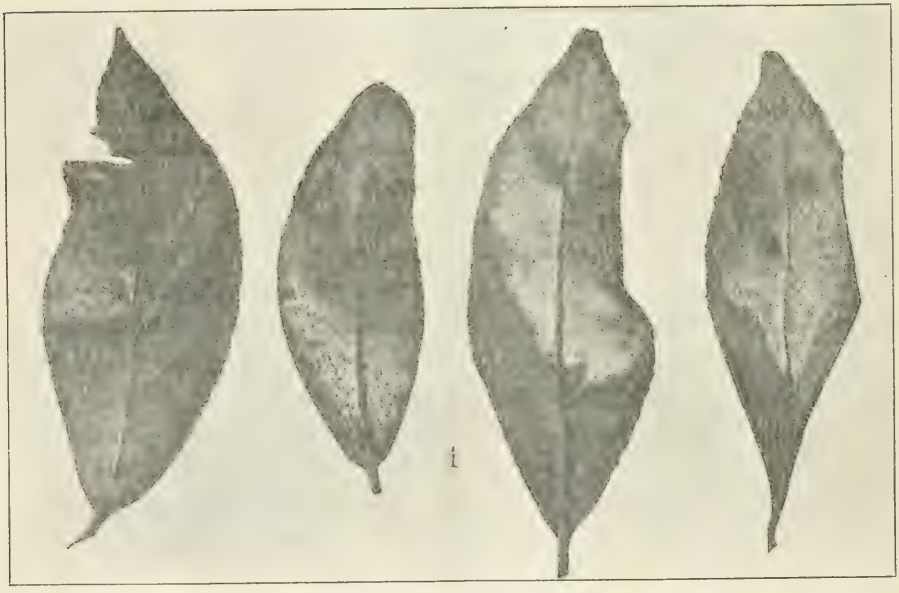
During the course of the mycological study of Formosa, another author observed also the present disease, which is a very common trouble in the tea districts of northern Formosa. The leaves of the tea plant affected with the disease were noticed from the latter part of January, and the disease often causes a great damage almost as much as the blister-blight.

Under the microscope, we may easily recognise the causal fungus of the disease to be a species of Exobasidium, but the symptoms as well as the nature of the fungus differ from those of the well known blister-blight of the same plant, caused by *Exobasidium vexans* MASSEE, in many respects.

These two places, Suruga and Formosa, are widely separated, yet the disease in question seems to have not yet been collected from any of the intervening tea districts. But in the

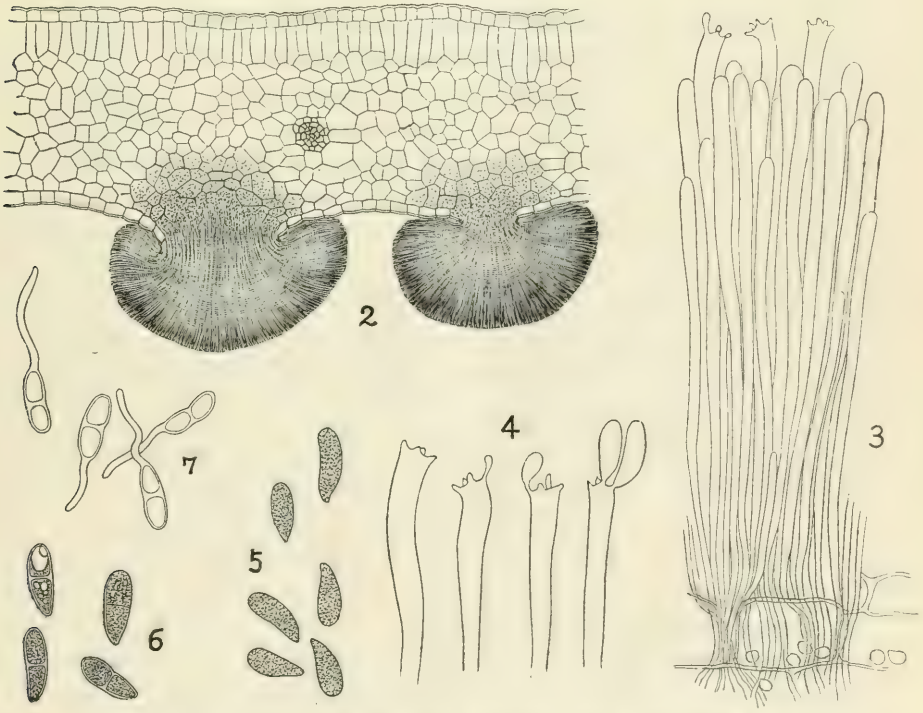
near future, we are sure the disease will certainly be observed in the various localities of our country.

The first indication of this disease is a small, pale yellow speck on the surface of the leaf, and we can see the darker netted lines in the tissue of the spot on the affected young leaf, when it is held up against the sun. The speck on a single leaf is variable in number, mostly one or two. It is not clearly limited in outline, irregular in shape, gradually enlarging until it reaches a diameter of 2 or 3 cm., but sometimes until it covers the entire leaf surface. The color of the speck gradually turns into brown and finally into dark brown. The corresponding surface on the under side of the leaf assumes at first a gray, dusty appearance. As they mature, the darker reticulated lines in the tissue are at first slightly raised above the level of the leaf-surface, and then by breaking through the epidermis, the characteristic white reticulated hymenium of the fungus is exposed. (Fig. 1)



The hymenium turns gradually into dark brown color from the central portion toward the periphery of the speck. Finally, the affected area of the leaf becomes dry and shrinks up.

A section through the diseased spot shows the hyphae to be ramifying in the tissue of the leaf and the chloroplastids destroyed. The hymenium is about 70-90μ in thickness. (Fig. 2.) The basidia are cylindrical clavate in shape, and usually produce four sterigmata on the apex. The basidia measure 100-135μ $\times$ 3–4μ; and the sterigmata 2–3μ in length. Each sterigma supports a basidiospore. (Fig. 3, 4.) The basidiospores are oblong-obovate in shape, straight or more or less curved, hyaline, granulate and they measure 9–12μ $\times$ 3–3.5μ. (Fig. 5.) Besides these one-celled spores, two-celled spores are often observed on the same hymenium. They are slightly larger than the former, and similar in shape and color, not or slightly constricted at the septum, and they are often found germinating *in situ*. (Fig. 6, 7.)



In the case of *Exobasidium vexans*, such two-celled spores also have been observed; but they were recognised as "conidia"

by MASSEE* and many other authors.** It is a remarkable and interesting fact, if MASSEE's view be correct, that the fungus belonging to Exobasidium produces such a conidium in its life cycle. On the other hand, the basidiospores of Exobasidium seem to be generally recognised to produce a septum in the process of their germination. From these points, the further experiments are required to decide the nature of these two-celled spores. In the case of the present fungus, the two-celled spores may only be observed in an old hymenium, and almost always they are found germinating, but they could not be obtained from a young specimen. From these facts, we may be justified in considering the two-celled spores as a mere stage of the basidiospores—at least in the case of our fungus.

Let us then briefly state on the differences between the present disease and the related "blister-blight."

In the macroscopical appearance they differ strikingly from each other. The spot of the blister-blight is more or less regular, roundish, clearly limited, and pale yellow, but sometimes becomes colored deep red on both sides. The circular spot generally reaches to the size of 15 mm. in diam., sometimes as much as 23 mm; it becomes gradually depressed into a shallow cavity; when matured, it gives eventually a white powdery appearance on the entire convex under-surface. On the other hand, the spot of the disease in question, as already stated, is irregular in shape, not limited, and never reddish in color; and moreover it becomes never bullated and forms a white reticulation on the under surface.

Microscopically these two species differ from each other in the measurement of their various parts, as follows :—

	Exob. vexans.	*Exob. sp.*
Basidia	49–150 × 3.5–6μ	100–135 × 3–4μ
Sterigmata	3–4.5μ	2–3μ
Basidiospores	11–16 × 4–6μ	9–12 × 3–3.5μ

Besides these facts, these two species differ from each other in the number of sterigmata on a basidium. While the sterig-

* "Tea Blights," New Gardens Bulletin. 1898.

** Watt, Mann, Speschnew and Mc Rae.

mata on a basidium of the blister-blight fungus are generally two in number, those of the present fungus are invariably four.

From the foregoing statements made on the distinctness of our fungus from its related species, we considered it as a new species. The diagnosis of this fungus, for which we propose the name *Exobasidium reticulatum* is as follows :—

Exobasidium reticulatum S. Ito et Sawada.

Spots, on leaf, mostly one or two in number, scattered, not limited, 2 or 3 cm. in diam., sometimes covering the entire surface, yellowish then brown to dark brown in color, at last becoming dry and shrink up. Hymenium hypophyllous, reticulated, white ; basidia cylindrical clavate, hyaline, 100–135 $\times$ 3–4μ ; sterigmata on a basidium are 4 in number, 2–3μ in length. Basidiospores oblong-obovate, straight or slightly curved, hyaline, continuous, granulate, 9–12 $\times$ 3–3.5μ. Two-celled basidiospores oblong-obovate, hyaline, not or slightly constricted at the septum, often with germ-tubes.

Hab. On leaves of *Thea sinensis* L.

Honshu :— Prov. Suruga. May 1911. T. Hanzawa.

Formosa :— Taihoku. Nov. 16, 1908 ; Jan. 27, 1910; April 18, 1911. K. Sawada.

In conclusion, we wish to express here our heartiest thanks to Prof. Dr. K. Miyabe to whom we are indebted for his many valuable suggestions.

June 1912.

In the Phytopathological Laboratry,
College of Agriculture,
Tōhoku Imperial University,
Sapporo, Japan.

Observations on the Flora of Japan.

(*Continued from p. 222.*)

By

T. Makino.

Lecturer of Botany in the Science College,
Imperial University of Tokyo.

Isopyrum nipponicum Franch. in Bull. Soc. Bot. France, XXVI. (1879), p. 82 ; Maxim. in Mél. Biol. XI. p. 631 ; Huth in Bull. Herb. Boiss. V. p. 1088 ; Makino in Bot. Mag., Tokyo, XI. p. 171, et in Icon. Fl. Jap. I. 1, tab. 3.

A glabrous flaccid perennial herb, about 6–20 cm. high. Rhizome hypogæous or subhypogæous, fleshy, pellucid, colourless or more or less greenish, but fuscous-brown when dried, oblique or sometimes erect, usually loosely and scantily ramose with obliquely spreading branches, covered with numerous alternate persistent vaginæ of old leaves, which their blades and petioles are already fallen off ; vaginæ clasping the rhizome at the base, ovate to orbicular, somewhat navicular, entire-margined, emarginate at the apex and with a short remain of the old petiole at the back of the apex, fleshy, carnose in centre and gradually thinner towards the margin, obtuse at the back, with sunk triple-nerves, about 4–9 mm. long ; roots numerous, filiform, branched, whitish, more or less darkish in the inferior old ones, dark-brown when dried, hairy throughout. Leaves annual, reclined in vernation, flaccidly herbaceous. Radical leaves 1 to few to a rhizome or its branch, erect, long-petiolate ; common petiole longer than the lamina, subterete, slender, smooth, fleshy, light green and tinged with more or less purpurascent colour, attaining about 8cm. in length, vaginte at the base, the vagina 3–5 mm. long, inflated ; lamina cordato-orbicular or broadly cordato-orbicular in outline, attaining about 5 cm. in length, horizontally holding its position, sub-biternatisected or rarely

sub-triternatisected, but simply ternatisected in those of the infant plant; primary lateral divisions with narrow and erect-patent petiole, divided into 2–3 unequal-sized and petiolulate segments, the outer lateral segment often again dividing into 2 shortly petiolulate and unequal-sized small segments; primary middle division constantly simple, with a long filiform petiole, which is slightly shorter than the segment; all segments bright green, slightly glaucous beneath, membranaceous, slightly rugose on account of the depressed nervation on the upper surface-triplinerved; veins loose and erect-patent, with loosely and irregularly reticulated veinlets between them; terminal segments of the middle and lateral primary divisions obovato-orbicular or rhombeo-orbicular, entire and cuneate at the nearly lower half, usually acute at the base, trifid, the midlobe larger than the lateral lobes, all coarsely and unequally crenato-lobed into a few ovate and emarginate lobules, attaining about 4 cm. long 3 cm. broad; lateral segments of the middle and lateral primary divisions smaller than the terminal segment, ovate or elliptical, ovate, obliquely truncate or subcordate at the base, shortly petiolulate, margined with lobules similar to those of the terminal segment. Floral leaves 2, situated on the top of the scape and immediately under the inflorescence, spriously opposite, horizontally spreading, petioled; the lower one larger and sub-biternatisected, and the upper one ternatisected or sub-biternatisected; segments similar to those of the radical leaves in cutting, size, and shape; common petiole short, 1–15 mm. long, semiterete, canaliculate in front; vagina short, small, stipulaceous, semiorbicular-auriculate, entire and rounded on margin, often reflexed, 1–$2\frac{1}{2}$ mm. wide, light green, but membranaceous and whitish towards the margin, sometimes connate with the superior one. Scape erect, springing from the apical portion of the rhizome, much exserted upon the radical leaves, terete, smooth, fleshy, light green with dilute purpurascent hue, about 6–15 cm. long. Inflorescence cymose, bracteate; the first lateral peduncles oppositifolious and frequently ramose, the secondary lateral peduncles also sometimes again ramose; the pedicel slenderly terete, filiform, drooping at the

apical portion in flower but afterwards strict in fruit; bracts small, shortly petioled, leaf-like, patent, spuriously opposite, trisected into 3 entire or pauci-crenato-lobate ovate or oblong segments, furnished with usually connate stipulaceous vaginæ at the base. Flowers nutant, about 7–10 mm. or a little more in diameter; receptacle disk-shaped, somewhat semisphærical, truncato-rounded and usually slightly concave at the base, afterwards in fruit very much enlarged into a fleshy short tube enclosing the apical portion of the pedicel. Calyx petaloid, nearly patent, deciduous; sepals 5, more or less unequal in size, oblong in the outer ones, obovato-oblong and slightly larger in the inner ones, entire, rounded-obtuse with obscure and minute crenatures at the apex, thinly membranaceous, provided with very fine greenish nerves, whitish but with viridescent hue in the basal portion, the outer ones usually stained with purple colour, attaining about 9 mm. in length. Petals 5, nectariform, much shorter than the sepals, 4–5½ mm. long, erect-patent, long-unguiculate, deciduous; lamina minute, bright yellow, inflexed as to form a deltoid-semiorbicular compressed hood, 1–1⅓ mm. long, 1½–2 mm. broad, bifid at the apex, thinly membranaceous, smooth, 3–nerved; anguis stout-filiform, a little enlarged in the middle portion, white, with a sunk nerve, about 3–4–times long of the lamina. Stamens rather numerous, unequal in length, the longest ones equal to the petals in height; anther small, ovato-orbicular, whitish, with oblong cells adnate along the connective, dehiscent sidewise; pollen whitish, ellipsoid with both obtuse ends, smooth, longitudinally 3-furrowed; filament filiform, with a sunk nerve. Ovaries 2, a little connate at the base, erect, glabrous, oblong, slightly curved inwards, rounded and singly costate on the back, angular in the lateral and ventral sides, undulate on the surface, acute towards the the style at the apex, about 2½ mm. long, 1–celled, thinly walled, with a vertical hairy line on the back internally; ovules minute, usually 10–12, 2–serial, with a short funicle, ascending, obovato-elliptical, smooth, anatropous, greenish; style terminal, nearly equal to or a little longer than the ovary, arcuate outwards, filiform, green; stigma white, very minutely papillose,

ventrally lateral towards the apex of the style. Follicles binate, horizontally patent, 1⅓– nearly 2 cm. in length through the two pollicles, oblong, with a curved and dried style at the apex, with a thin carpel, compressed, quadrangular, abruptly truncate at the superior part of the ventral suture with an obtuse angle, glabrous, undulate, coste. Seeds 10–12 to each carpel, globose, nearly 1 mm. each way, with a short minute spongy and whitish funicle, ascending, shining, yellowish brown, with a narrow and slightly prominent rhaphe ; albumen copious, white, fleshy ; embryo minute, sitting at the base of the albumen ; cotyledons shorter than the hypocotyl. Seedling : cotyledonaly leaves 2, equal in size and form, ovato-elliptical, retuse with a minute obtuse projection at the apex, thin, herbaceous, green, with a slender petiole ; hypocotyl slender, filiform, glabrous ; rootlets hairy.

Nom. Jap. *Adzuma-shirokanesô* (T. Makino), *Echigo-hime-udzu* (R. Yatabe).

Hab. Prov. Echigo ; Uzen ; Rikuzen ; Echizen.

There are several species of this genus in Japan, of which this is a rarer one, being, at present, found growing only on the mountains of the provinces of Uzen, Echigo, Echizen, and Rikuzen, in flower during April-June. The squamose rhizome constitutes the best character to distinguish this species from all others of the genus ; and the leaflets have a resemblance to those of *I. stoloniferum* Maxim., though quite different in essential characters. In 1879, A. Franchet first described this species from specimens collected by R. P. Faurie, in his "Stirpes novæ vel rariores floræ Japonicæ" in Volume XXVI of the "Bulletin de la Société botanique de France." In the Herbarium of the Science College, Imperial University of Tokyo, there are some specimens of this species, collected by R. Yatabe and S. Ôkubo on Mt. Godzu in the province of Echigo on August 2, 1886, and Mt. Yudono in the province of Uzen on July 22, 1887, and they are all in ripe fruit. My figures in "Icones Floræ Japonicæ" were drawn from living specimens cultivated in the Koishikawa Botanic Gardens.

Utricularia affinis Wight, Ic. Pl. Ind. Orient. tab. 1580, fig. 1 (1850); Oliv. in Journ. Linn. Soc. III. p. 178; Clarke in Hook. fil. Fl. Brit. Ind. IV. p. 330.

Utricularia brachypoda Wight, l. c. tab. 1578, fig. 1.

Nom. Jap. *Murasaki-mimikakigusa.*

Hab. Japan.

forma albida Makino.

Flower pallid.

Nom. Jap. *Shirobana-mimikakigusa.*

Hab. Japan.

Hypericum fujisanense Makino, nom. nov.

Hypericum erectum var. cæspitosum Makino in Bot. Mag., Tokyo, XVIII. (1904), p. 104.

Nom. Jap. *Fuji-otogiri.*

Hab. Japan. (*To be continued.*)

Notulæ ad plantas Japoniæ et Koreæ VI.

auctore

T. Nakai.

Macroclinium et Pertya.

Nonnullæ plantæ japoniæ in classes *Pertyæ* aut *Macroclinidii* distributum sunt. Species typica prioris est *Pertya scandens* et posterioris *Macroclinidium robustum*. Cum *C. J. Maximowicz* imprimo genus *Macroclinidium* condidisset, a *Pertya* distinctissimum erat propter interpositam speciem nondum descriptam. Species *Macroclinidii*, inquit, a *Pertya* bracteis multiserialibus et receptaculo ciliato distinguitur.

Additamentum *Macroclinidii verticillati* a Franchet, tamen, libram perturbavit. Hac planta receptaculum nudum et bracteas multiseriales agit. Hoffmann secundo pubescentia et magnitudinem seminum pro systema Maximowicziana perperam adoptavit. Semina *Macroclinidii verticillati* sunt pubescentia!

Postea dom. T. Makino *Macroclinidium trilobum* publicavit. Hac species caput minus habet, ita semen est tantum parvum, ne utraque genera a magnitudine seminum inter sese distingui possimus. Insuper receptaculum et semen illius species nudum est. Me judice species *Pertyæ* a *Macroclinidii* modo posteriore distinguere possumus.

Pertya species.—Rhizoma nullum, Fruticosa. Caulis toto foliaceus. Caput solitarium, in summo rami terminale.

Macroclinidium species.—Rhizoma breviter v. longe repens. Caulis annuus, superior tantum foliaceus. Inflorescentia racemosa v. paniculata.

Dom. T. Makino omnes species utræque generis sub *Pertya* collocans, ejusmodi iterum divisit. Sed, mea sententia, ingenia supra citata pro illo generis quam subgeneris satius sunt. Ita nomen *Macroclinidium* ad posteriorem divisionem dare propono.

Pertya Schult—Bip. (species unica).

Pertya scandens (*Thunb.*) *Schult—Bip.* in Bonplandia X. p. 109. t. 10. Miq. Prol. Fl. Jap. p. 120. *Maxim.* in Mel. Biol. VIII. p. 8. Eran. et Sav. Enum. Pl. Jap. I. p. 265.

Makino in Tokyo Bot. Mag. XIV. p. 144. Hoffmann in Engler-Prantl Nat. Pflanzenf. IV. 5. fig. 152. E. Matsum. Ind. Pl. Jap. III. p. 659.

Eupatorium scandens Thunb. Fl. Jap. p. 313. Willd. Sp. Pl. III. p. 1961.

Pertya scandens α Schultziana Tran. in Mém. Herb. Boiss. n. 14. p. 1.

Nom. Jap. Kōyabōki v. Nagabano-Kōyabōki.

Late expansa in Japonia. Duæ formæ rami sunt. Ramus hornotinus, foliis alternis sparse dispositis ovatis, pubescens, a apite unico terminatus. Hic est *Pertya ovata* Maximowicziana.[1] Sequenti anno ramus nudus venit et ramos perbreves axillares agit. Hi rami axillares nonnulla folia lanceolata v. oblanceolata rosulata portant et hi sunt *α Schultziana* Franchetiana. Rami pro genista a populis usa sunt et quam *Cochia* meliores sunt.

Macroclinidium Maxim. sensu diversa.

Rhizoma repense apice squamis obtectum, caule solitario terminatum. Caulis annuus apice foliaceus. Inflorescentia racemosa v. paniculata. Involucri squamæ 6–10 seriales. Receptaculum nudum v. pilosum. Antheræ longe-caudatæ. (Species 5 in Japonia indigenæ).

Conspectus specierum.

A. Caput uniflorum. Folia ovato-acuminata grosse-argute remoteque serrata. Receptaculum nudum. Semina puberula.

.....*M. Koribanum.* Nakai.

B. Caput 2–8 florum.

a) Folia triloba v. superior tantum ovata, ambitu rotundata grosse arguteque serrata. Inflorescentia paniculata. Caput minus, oliganthum. Receptaculum et seminum glabrum.

.....*M. trilobum* Makino.

1. Maximowicz in Mél. Biol. VIII. p. 8. et a Franchet in Mém. Herb. Boiss. (1900) p. 2. n. 14 sub nomine *Pertya scandens* β Thunbergiana.

b) Folia indivisa. Caput majus.

α) Folia oblanceolata basi attenuata argute v. apiculato sed proxime serrata Inflorescentia paniculata. Caput majus. Involucri squamæ 6–7 seriales. Receptaculum glabrum. Semina puberula.

.....*M. rigidulum* (Miq.) Makino.

β) Folia ovata basi truncata v. subito acuminata argute remoteque serrata. Inflorescentia racemosa. Involucri squamæ 10–15 seriales.

° Receptaculum pilosum. Semina glaberrima.

.....*M. robustum* Maxim.

°° Receptaculum glabrum. Semina puberula.

.....*M. hybridum* (Makino) Mastum.

Enumeratio specierum.

86). **Macroclinidium Koribanum** Nakai sp. nov.

Rhizoma ? Caulis erectus cum inflorescentia paniculata cca 40 cm. glaberrimus. Folia glaberrima petiolata ovata utrinque acuminata subtrinervia, argute remoteque serrata margine scaberula. Lamina 6–10 cm. longa 3.5–6.5 cm. lata. Inflorescentia glaberrima foliacea. Flores subsessiles v. sessiles. Involucri squamæ 6–7 seriales, extima brevissima late triangulato-ovata 1 mm. longa, intima longissima 15 mm. longa oblongo-linearis. Tubus corollæ 8 mm. longus, limbus 10 mm. longus, anguste-linearis. Antheræ exertæ longe caudatæ. Styli antheras paulum superantes. Stigmata breviter bifida extus puberula, intus sub lente papillosa. Semina 10 mm. longa adpresse-puberula. Puppi biseriales setacei sub lente minutissime scaberuli.

Nom. Jap. Sendai-haguma (nov).

Crescit in pede montis Taihakusan circa urbem Sendai, ubi detexit K. Kōriba in mense Octobri anni 1901.

87). **Macroclinidium hybridum** (Makino) Matsum. in Ind. Pl. Jap. III. (1912) p. 658.

Pertya hybrida Makino in Tokyo Bot. Mag. XIV. (1900) p. 144. nom. nud. XX. (1906) p. 28.

Macroclinidium robustum × *Pertya ovata* Makino in Tokyo Bot. Mag. XII. (1898) p. 194 sine descriptione.

Nom. Jap. Kakoma-haguma.

Specimen unicum in area donarii Omija-hachiman (prov. Musasi) a dom. T. Makino lectum est.

88). **Macroclinidium robustum** Maxim. in Mél. Biol. VII. (1870) p. 556. Fran. et Sav. Enum. Pl. Jap. I. p. 265. Franchet l. c. p. 3. Makino. l. c. XII. (1898). p. 194. Matsum. l. c. p. 658.

Pertya Macroclinidium (Maxim.) Makino l. c. XIV. (1900). p. 144.

Nom. Jap. Kasiwaba-haguma.

In Japonia vulgaris præter boreali-finitimum Hondō nec non Jeso.

89. **Macroclinidium rigidulum** (Miq.) Makino l.c. XII. (1898). p. 194. Matsm. l. c. p. 658.

M. verticillatum Fran. et Sav. Enum. Pl. Jap. I. p. 265. II. p. 417. Franchet. l. c. p. 3.

Eupatorium ? rigidulum Miq. Prol. Fl. Jap. p. 99.

Nom. Jap. Kurumaba-haguma.

Species subalpina tantum in media parte Hondoense crescit.

90). **Macroclinidium trilobum** Makino Illus. Fl. Jap. I. n. 12. et in Bot. Mag. XI. (1898). p. 78. Icones Phanerog. Pterid. Jap. I. t. 51. Matsum. Index Pl. Jap. III. p. 658.

M. trilobatum Makino l. c. VIII. (1894). p. 302. XII. (1898). p. 194.

Ainsliæa triloba Makino l. c. VI. (1892). p. 55.

Pertya triloba Makino l. c. XIV. (1900). p. 144.

P. Fauriei Franchet l. c. p. 2. t 1.

Nom. Jap. Ojari-haguma.

In boreali partę Hondoense cresit.

Notulæ ad Plantas Japoniæ et Coreæ VII.

auctore

T. Nakai.

Geranium Coreanum, Japonicum et Sachalinense.

Fundamentum presentis operis maxime specimina in Herbario Universitatis Imperialis Tokyoensis servata efficiunt. Post brevem notam Geranii Japonici in vol. XXIII dedi, multa specimina e variis locis ad nos venuerunt. Inter ea specimina e Rever. U. Faurie, qua benevole mihi ab eo præbita, sunt numerosissima et illa erant meo studio magnum auxilium. Propter quam rem gratiam maximam eo ago. Prima nota mea inaccurata erat. Præterea species nonnullæ in nostra regione crescentes infeliciter a clar. R. Knuth non rite exponebantur. Hæres me ad secundum hujus generis studium incitant. Hic errores prioris notæ ita emendare simulque specimina adhuc confusa facile agnitu facere conitus sum.

Conspectus specierum Geranii in Japonia, Korea et Sachalin crescentium.

1 { Planta annua. Folia tripartita v. pedata, lobis pinnatifidis. Pedunculi fructiferi erecti.....*G. Robertianum* L.
  Planta perennis.....2.

2 { Pedunculi unifloris. Folia inciso 3–7 fida, lobis inciso-laciniatis. Flores diametro 1 cm. haud excedentes. Pedicelli fructiferi declinati.....*G. sibiricum* L.
  Pedunculi 2–∞ floris.....3.

3 { Pedicelli fructiferi erecti. Columma stylina longissime rostrata.....4.
  Pedicelli fructiferi declinati, et si primo erecti demum declinati.....8.

  { Pedicelli floriferi vulgo calycem superantes, glanduloso-patenti-hirsuti .....5.

4 Pedicelli floriferi vulgo calycem breviores, recurvato-denseque ciliati v. pilis patentibus sparsis non glandulosis intermixti. Folia 5 fida, lobis inciso-laciniatis. Flores agureo-violacei..... .....*G. erianthum DC.*

5 Folia subtus niveo-tomentosa, 3–5 fida, lobis ovatis mucronato-serratis.....*G. eriostemon* Fischer. v. *hypoleucum* Nakai.
Folia subtus pubescens v. puberula.....6.

6 Flores diametro 3 cm. haud excedentes..... .....7.
Flores diametro 3.5–4 cm., azureo-violacei. Folia 3–5 fida, lobis ovatis grosse-ovato-serratis..... .....*G. eriostemon* Fischer. v. *megalanthum* Nakai.

7 Flores intense violacei. Caulis sparse patentique hirsutus. Folia 3–7 fida lobis acute-inciso-serratis..... ....*G. eriostemon* Fischer v. Onoei (Fr. et Sav.) Nakai.
Flores pallide-rosei. Caulis dense patentique hirsutus. Folia 3–7 fida. serratulis variis..... ....*G. eriostemon* Fischer v. Reinii (Fr. et Sav.) Maxim.

8 Stipulæ connatæ..... .....9.
Stipulæ præter suprema liberæ.....13.

9 Stipulæ coriaceæ virides, longitudinali-striatæ ellipticæ. Folia 3–5 fida, Caulis et folia glabrescens..... .....*G. Yoshinoi* Makino et *G. soboliferum* Kom.
Stipulæ membraneacæ mox fuscatæ, late-ovatæ v. cordato-ovatæ v. ovato-ellipticæ.....10.

10 Folia grosse-dentata, dentibus ovatis mucronatis v. acuminatis. Petala subspatulato-obovata. Stipulæ late-ovatæ v. ovato-ellipticæ.....11.
Folia grosse-inciso-dentata, dentibus ellipticis v. ovatis acuminatis v. mucronato-acuminatis. Caulis saltem superior patenti-densiusque hirsutus..... .....12.

11 Caulis pedicellique pilosus v. puberulus v. glabrescens..... .....*G. koreanum* Kom.
Caulis pedicellique patenti-hirsutus..... ....*G. koreanum* Kom. v. *hirsutum* Nakai.

12 Caulis 2–3 pedalis superior patenti-hirsuta..... .....*G. shikokianum* Matsum.
Caulis 0.5–2 pedalis toto patenti-hirsuta..... .....*G. shikokianum* v. *quelpærtense* Nakai.

13 Flores diametro 1–1.5 cm. rarius 2 cm..... .....14.
Flores diametro 2–3 cm.....18.

14 { Folia tri- v. pedato-partita. Segmenta foliorum brevissime-petiolulata.
Planta vulgo humilis interdum elata. Flores pallide-rosei v. albidi. ..... *G. tripartitum* KNUTH.

15 { Folia 3–7 secta. Segmenta foliorum continua ..... 15.
Folia hastato-triloba, segmentis lateralibus sine lobis accessoribus, late-lanceolatis v. lineari-lanceolatis æqualiter serratis ..... *G. hastatum* NAKAI.
Folia 3–5 fida irregulariter v. subæqualiter serrata ..... 16.

16 { Petioli et pedicelli densissime patenti-hirsuti v. recurvato-subpatenti hirsuti. Segmenta foliorum ovata varie incisa v. dentata, dentibus obtusis v. acutis v. acuminatis. Pubes foliorum varii ..... *G. nepalense* SWEET.
Petioli et pedicelli adpresse recurvato-puberuli. Folia et caulis glabrescentia. Folia trifida, segmentis lateralibus bifidis, omnibus lanceolato-ovatis v. ovatis irregulariter v. subregulariter serrata ..... 17.

17 { Caulis gracilis v. robustus. Folia duriuscula. Inflorescentia vulgo sparsa ..... *G. Krameri* FRAN. et SAV.
Caulis valde robustus, nodis eximie incrassatis. Folia crassiuscula. Inflorescentia densiuscula ..... *G. Krameri* FR. et SAV. var. *linumai* NAKAI.

18 { Petala horizontali-patentes v. reflexa. Caulis elatus 2–5 pedalis erectus v. ascendens. Folia 3–7 secta, segmentis subtrifidis inciso paucique laciniatis. Flores pallide-rosei v. rosei ..... *G. japonicum* FRAN. et SAV.
Petala divergentes v. subhorizontali patentes. Caulis 0.5–7 pedalis ascendens v. radicantes v. abbreviato-erectus ..... 19.

19 { Caulis dense patentique hirsutus. Caulis angulatus. Folia hirsuta 3–5 fida, lobis acuminato-incisis. Flores diametro cca 2–2.5 cm. rosei ..... *G. Maximowiczii* REGEL et MAACK.
Caulis recurvato-hirsutus v. adpresse-pubescens v. glabrescens ..... 20.

20 { Segmenta foliorum superiorum tantum serrata non anguste-incisa. ..... 21.
Segmenta foliorum inciso-laciniata v. anguste-incisa ..... 24.

21 { Segmenta foliorum oblongo-quinquangularia utrinque 1–2 rarius 3 dentibus ..... 22.
Segmenta foliorum crebri-serrata v. inciso-serrata ..... 23.

Folia subtus præter venas glaberrima. Flores pallide-rosei. Filamenta dense-barbata. Caulis 1–2 pedalis ... *G. Koraiense* NAKAI.

22 { Folia subtus pubescens. Flores intense purpureo-rosei. Filamenta minus barbata. Caulis 3 pedalis.....*G. Hattai* Nakai.

23 { Folia 3-5 fida. Segmenta foliorum ovata apice acuminata ovato-mucronato-serrata. Flores diametro 25 cm. rosei.....*G. Knuthii* Nakai.
{ Folia 3-5 fida. Segmenta foliorum inferiorum inciso-serrata, superiorum grosse-paucique serrata. Flores intense rosei diametro 2.5 cm. Petala obovata.....*G. Miyabei* Nakai.

24 { Caulis humilis gracilis. Folia subflabellato 5-7 partita. Segmenta foliorum inciso-laciniata, lacinis linearibus. Radix eximie glumosa. Folia 3-5 cm. lata.....*G. napuligerum* Franch.
{ Caulis elatior robustior. Folia 3-7 partita, 5-10 cm. lata. Segmenta foliorum inciso-laciniata. Radix glumosa.....25.

25 { Calyx dense patenti-hirsutus. Folia et caulis pubescentia.....*G. Yesoense* Fran et Sav.
{ Calyx glaberrimus v. sparse hirsutus. Folia et caulis glabrescens v. pubescens.....*G. Yesoense* Fr. et Sav. var. *nipponicum* Nakai.

G. molle a Dr. K. Saida lectum circa Tokyo est planta introducta.

Enumeratio specierum.

91) **Geranium Robertianum** L. Sp. Pl. (ed. II.) p. 955. Ledeb. Fl. Ross. I. p. 473. Maxim. in Mél. Biol. X. p. 613. R. Knuth Geraniaceæ p. 64.

G. Robertianum v. *glabrum* Fran. et Sav. Enum. Pl. Jap. II. p. 307.

G. eriophorum Leveille in Bull. Soc. Agric. Sci. Arts Sarthe (1904) repr. p. 4.

Nom. Jap. Hime-fūro v. Siwojakisō.

Nippon: Monte Ibukijama 16. VII. 1898. n. 1894. (U. Faurie) ibidem 1. VIII. 1881. (R. Yatabe et J. Matsumura).

Sikoku: monte Tsurugisan (Oyatsu) ibidem 13. VIII. 1894 (S. Ikeno) ibidem 13. VIII. 1904 (D. Nikai).

Distr. Europa tota, Asia minor, Caucasus, Himalaya, China, America bor. et austr.

92) **Geranium sibiricum** L. Sp. Pl. (ed. II.) p. 957. Ledeb. Fl. Ross. I. p. 459. Miquel. Prol. p. 201 Fran. et Sav. Enum. Pl.

Jap. I. p. 69. Maxim. in Mél, Biol. X. p. 617. Kom. Fl. Mansh. II. p. 645. Nakai Fl. Kor. I. p. 112. R. Knuth l. c. p. 195.

Nom. Jap. Ichige-fūro.

Sachalin: secus vias Korsakof. VIII. 1908. n. 766. (U. Faurie) Merea VIII. 1906, Nayoro VII. 1906. (G. Nakahara).

Yeso: Sapporo 16 VIII. 1884. (Faurie) ibidem 1. VIII. 1899. (J. Matsumura) Masike 2. VIII. 1887 (S. Hori) Poronaibuto 26. VIII. 1899 (H. Yabe).

Nippon: Aomori 7. VII. 1885 (Faurie).

Korea: Namsan 10. X. 1900, Kumgangsan 15. VIII. 1902, Yeungdeungpho 24 VII. 1902. (T. Uchiyama) Mangyokusan 8. VI. 1909 (T. Nakai) Musangryŏng 11. VIII. 1907 (K. Maeda) Pyeng-yang 9. X. 1911 (H. Imai) in herbidis Chinampho VIII. 1906. n. 580 (Faurie).

Distr. Sibiria, Caucasus, Manshuria, Amur, China, Himalaya, Europa media et sept.

93) **Geranium eriostemon** Fischer in DC. Prodr. I. p. 641. Ledeb. Fl. Ross. I. p. 464. Maxim. in Mél. Biol. X. p. 628. R. Knuth l. c. p. 121.

α. **typicum** Maxim. l. c. p. 628. p. p.

Potius humilis 0.5–2 pedalis. Folia radicalia ad medium 5 fida, mucronato-serrata utrinque pubescentia. Caulis patenti-hirtellus, superior glanduloso patenti-hirsutus. Flores diametro 2.5–3 cm. Sepala late-elliptica 3–5 nervia glanduloso-hirsuta v. adpresse-hirtella. Petala roseo-v. azureo-violacea.

Hab. Nippon: monte Togakushi (T. Matsumura) ibidem 16. IX. 1898 (Faurie) monte Nyohō 20 V. 1882. (Sawada).

Distr. Dahuria, Manshuria et Amur.

β. **orientale** Maxim. l. c. p. 629. p. p.

Folia radicalia 7–, caulina 5–, suprema 3 inciso fida, lobis rhombeis utrinque attenuata inciso lanceolato-serrata, supra glabriuscula infra ad venas pubescentia, stipula fuscata late-lanceolata v. lanceolato-acuminata. Caulis patenti sparceque hirtella. Pedunculi et pedicelli glanduloso-hirtelli. Sepala 3–5 nervia elliptica apiculata. Petala azureo-violacea. Styli elongati.

Hab. Amur et Manshuria.

γ. **Onoei** (Fran. et Sav.) Nakai.

G. eriostemon β. orientale Maxim. l. c. p. p.

G. Onoei Fran. et Sav. Enum. Pl. Jap. II. p. 303. R. Knuth l. c. p. 123.

Ut β. sed caulis pilis 1–2 mm. longis glandulosis densius vestitus. In β pili brevissimi sunt et 1 mm. haud superantes.

Nom. Jap. Takane-gunnaifūro.

Hab. Yeso: Sapporo (K. Miyabe).

Nippon: Komagatake 2400 m. VII. 1905 n. 6994 (Faurie) ibidem 2. VIII. 1886. (R. Yatabe) ibidem 17. VII. 1911. (J. Nikai). Yatsugatake 18 VIII. 1902 (Y. Yabe) ibidem VII. 1905 (B. Hayata) Zizogatake 1500 m. VII. 1903 n. 5386 (Faurie) Asamayama VII. 1904. n. 6149 (Faurie).

δ. **Reinii** (Fran. et Sav.) Maxim. in Mél, Biol. X. p. 630.

G. Reinii Fran. et Sav. l. c. p. 394. Knuth l. c. p. 122.

Folia radicalia ad medium v. ultra 7–fida, lobis rhombeo-obovata grosse mucronato dentata v. inciso-late-lanceolato-dentata, utrinque molliter pubescentia. Petioli longissimi dense patentique hirsuti sed non glandulosi. Petioli et caulis præter basin vulgo viridissimi interdum plus minus purpurascentes. Caulis erectus 1–2 pedalis solitarius v. 2–3, dense patentique hirsutus, pilis inferioribus non glandulosis. Folia caulina inferiora longius petiolata, suprema sessilia et opposita. Stipula late-lanceolata acuminata fuscata. Flores umbellato 2–8 floris v. bis umbellati diametro 3 cm. haud superantes. Pedunculi et pedicelli patenti-glanduloso hirsuti. Calyx glanduloso-hirsutus 3–5 nerviis, apiculatus. Petala rotundata lilacina, nervis purpureis, apice rotundato-acutiuscula. Styli elongati.

Nom. Jap. Gunnai-fūro.

Nippon: monte Hakusan. (R. Yatabe) Ibukiyama (R. Yatabe et J. Matsumura) ibidem 16. VIII. 1898 (Faurie).

Planta endemica.

ε. **hypoleucum** Nakai. var. nov.

G. eriostemon β. orientale Nakai Fl. Kor. II. p. 457. p. p.

Caulis 1.5–2 pedalis patenti-hirsutus, superior glanduloso-hirsutus. Folia radicalia ad medium 5–fida, supra sparse hirtella, subtus molliter lanato-velutina, lobis mucronato-dentatis. Folia caulina superiora opposita v. alterna sessilia.

Flores 1–2 umbellati. Pedunculi et pedicelli patenti glanduloso-hirsuti. Calyx glanduloso patenti-hirsutus elliptico-apiculatus. Petala intense agureo-violacea. Styli valde elongati.

Korea: Kanto, Kakokusirei 8. VII. 1909 (K. Hatta).

Planta endemica.

ζ **megalanthum** Nakai. var. nov.

G. eriostemon β. orientale Nakai l. c. p. p.

Folia radicalia 7–, caulina 5–, suprema 3–fida, forma ut ε sed subtus tantum pubescentia. Caulis ramosus. Flores conspicui diametro 3.5 cm. v. ultra, azureo-violacei. Styli elongati.

Korea: Chŏng-zin 15. VI. 1909. (T. Nakai).

Planta endemica.

94) **Geranium erianthum** DC. Prodr. I. p. 641. Ledeb. Fl. Ross. I. p. 464. R. Knuth l. c. p. 122.

G. elatum R. Knuth p. 113 saltem p. p.

G. subumbelliforme R. Knuth p. 123. pro onmino.

Nom. Jap. Chisima-fūro.

Hab. Sachalin: in herbidis Korsakof. VII. 1908 n. 767; Urajimirofuka 30 VI. 1906 (Faurie).

Yeso: in Shiribesi 1500 m. VII. 1905 n. 6992, Nemuro 8. VII. 1890 n. 5546, summo montis Monbetsu 26 VII. 1886. n. 776, cape Soja 19. VII. 1891. n. 7207, Hakodate 29. VII. 1890. n. 5767, Riisiri 500 m. 25. VII. 1899 n. 3103, Rebunsiri. 1. VIII. 1899 n. 3104, Asariyama 17. VIII. 1888 (Faurie) Urup. (Kitahara) Riisiri (T. Kawakami) Simushu 25. VII. 1903 (K. Yendō), Sikotan (Kitahara).

Nippon: Hayachine 1800 m. 9. VIII. 1904. n. 6993. (Momo Sensirō).

G. subumbelliforme est forma parva *G. erianthi* crescens in insulis v. in summo montis alpini. *G. erianthum* nonnunquam 3 pedales attinget quod Illus. R. Knuth forsan pro *G. elato* habuisset, sed præsens species exquo pedicellis perbrevibus pilis nunquam glandulosis statim dignoscenda. *G. orientale* est forma distincta *G. eriostemonis* quocum *G. eriostemon G. eriantho* accedit.

forma **leucanthum** Takeda in Tokyo Bot. Mag. XXIV. p. 258.

Nom. Jap. Shirobanano-Chisimafuro.

Hab. Yeso: in promontorio Tumoshiri prope Nemuro. (H. Takeda);

in herbosis Shunapaushi, prope oppid. Nemuro (H. Takeda)—sec. H. Takeda.

95) **Geranium soboliferum** Komarov. in Act. Hort. Petrop. XVIII. (1899) p. 433. et Fl. Mansh. II. (1904) p. 651. t. XIV. Nakai Fl. Kor. I. p. 112. R. Knuth l. c. p. 143.

G. hakusanense Matsum. in Tokyo Bot. Mag. XVI. (1901) p. 124. R. Knuth l. c. p. 181.

Pedicelli robustiusculi et primo erecti sed demum declinati.

Nom. Jap. Asama-fūro (nov.). Hakusanfūro a Matsumura (non Iimura).

Hab. Korea: Kantō. Rokudōkō 9. IX. 1907. (K. Maeda).

Nippon: mōnte Asamayama 19. VIII. 1894 (C. Owatari) ibidem 14. VII. 1898 (Faurie).

Distr. Manshuria.

96) **Geranium Yoshinoi** Makino in litt. (sec. Z. Yoshino).

Columna rhizomatis incrassata squamis fuscis membranaceis obtecta, radices subfusiformes elongatas emittens. Folia radicalia longissime petiolata, petiolis gracillimis 10–27 cm. longis, præter apicem adpresse-recurvato-ciliatum glaberrimis, 1 mm. diametro, laminis inciso 7 fidis, lobis lanceolato incisis, venis sparsissime pilosis exceptis glaberrimis. Caulis usque 42 cm. longus gracillimus ascendens v. radicans, præter apicem glaberrimus, 1.5–2 mm. diametro. Folia caulina inferiora longius petiolata, inciso 5 fida, suprema sessilia trifida, mucronato lanceolatove incisa fere glabra. Stipulæ toto connatæ v. connato-bilobæ v. interdum infima subliberæ, viridissimæ conspicue trinervosæ. Pedunculi gracillimi 0.5–0.8 mm. diametro 2.5–7.5 cm. longi. Pedicelli subcapillares, fructiferi declinati 1.5–3.2 cm. longi, adpresissime recurvato pubescentes. Sepala elliptica v. oblongo-elliptica 5–7 nervia, interiora margine lilacina et membranacea, cum apiculo 1 mm. longo 7–8 mm. longa, 2–3.5 mm. lata. Petala obovata v. oblongo-obovata, nervis intense purpureis, purpureo-rosea 9–13 mm. longa 5–6.5 mm. lata integra v. varie paucique incisa, margine ad basin barbulata. Stamina 10, calyce æquilonga; filamenta purpurea puberula basi sensim dilatata ubique pallidiora et dense barbu-

lata. Fructus cum stylis conniventibus 3–4 mm. longis 18–20 mm. longus. Semina 2 mm. longa atro-fusca, sub lente minutissime impressopunctulata.——(Specimina testa quattuor).

Species distincta, primo *G. soboliferum* et *G. davuricum* in mentam vocat, sed satis gracilior et minor. Præterea folia minus incisa.

Nom. Jap. Bitchū-furosō (Z. Yoshino).

Hab. Nippon, prov. Bitchū: Hongōmura X. 1910, fructifera, 21. VIII. 1911 floriferum (Zensuke Yoshino) ibidem VII. 1908 floriferum (Yukimatsu Tamura).

Planta endemica!

97) **Geranium koreanum** Kom. in Act. Hort. Petrop. XVIII. (1899) p. 433. et Fl. Kor. II. p 652. t. XIII. Nakai Fl. Kor. I. p. 113. R. Knuth l. c. p. 181.

G. Wallichianum R. Knuth (non Don) l. c. p. 194 p. p. planta e Korea n. 230.

Hab. Korea: Namkansan 1. VIII. 1902. (T. Uchiyama) in herbidis Coreæ mediæ 4. IX. 1901. n. 230. (Faurie).

var. **hirsutum** Nakai Fl. Kor. I. p. 113. R. Knuth l. c. p. 580.

Hab. Korea: Namsan 30. VII. 1902. (T. Uchiyama) specimina testa 10.

Hac a *G. Wallichiano* differt primo foliis subtus præter venas puberulas glaberrimis, caulibus non dense-hirsutis, petalis minoribus et non emarginatis.

98) **Geranium shikokianum** Matsum. in Tokyo Bot. Mag. XIV (1901) p. 123. Nakai in Tokyo Bot. Mag. (1909) p. 102. R Knuth l. c. p. 182.

Nom. Jap. Iyofūro v. sikokufūro.

Hab. Sikoku: Tsurugiyama 13. VIII. 1905. (J. Nikai) Ishidzuchisan 9. VIII. 1888 (T. Makino) Tebakoyama 10. VIII. 1890 (S, Yano).

Nippon: Taisen (ex Makino).

Planta endemica a *G. Wallichiano* qui affinis differt, primo planta minore, foliis non sericeis, stipulis minoribus, floribus, minoribus petalis obtusis v. rotundatis sæpe tridentatis sed non emarginatis. Rodix glumosa ut in *G. davurico* aut *G.*

napuligero. Longe distat a *G. Sieboldiano*; inter species japonenses *G. yesoense* v. *nipponicum* proxima est sed stipulæ forma primo obtutu distincta.

var. **quelpærtense** Nakai var. nov.

G. Wallichianum (non Don) R. Knuth l. c. p. 194. plantæ ex Quelpært.

A typo differt, caulibus humilibus et minoribus, pilis patentibus densius vestitis sed foliis subtus non sericeopubescentibus, petali forma a *G. Wallichiano* statim dignoscendum.

Hab. Korea: in agris Quelpært X. 1907. n. 189., in herbidis Mokan Quelpært VII. 1907 n. 1758, in herbidis Hallaisan 1500 m. VIII. 1907. n. 1761., in Quelpært. X. 1906 n. 6. (Faurie). Quelpært 1911 (T. Mori).

99) **Geranium tripartitum** R. Knuth l. c. p. 191.

G. Wilfordii Maxim. in litt. (non in Mel. Biol. X.). Nakai in Tokyo Bot. Mag. (1909) p. 101 excl. syn.

A Cl. R. Knuth bene describitur. Radix fibrosa v. plus minus glumosa. Caulis bene evolutus usque 60 cm.

Dom. T. Makino imprimo hanc speciem Illustrissimo J. C. Maximowicz ad determinationem misit, et specimen verum ab eo pro *G. Wilfordii* habitum erat. Non misit simul alia Geraniorum specimina, exinde non dubio quin Maximowicz hoc eocum confusum.

Nom. Jap. Kofūro.

Hab. Nippon: Chūzenzi 27. IX. 1889. (Sawada) Fuji IX. 1906. (S. Matsuda) Tsukuba VIII. 1898 (K. Okada). Zigoku. 22. VIII. (Matsumura).

Shikoku: Yokogurayama, Tsuetatetōge 26 VII. 1888., Nanogawamura 2. X. 1891 (T. Makino). Tsurugiyama 28 VIII. 1908 (J. Nikai).

Korea: secus vias Quelpaert VIII. 1907. n. 1759., in herbidis Hallasan VIII. 1907 n. 1762. (Faurie).

Planta endemica!

100) **Geranium hastatum** Nakai in Tokyo Bot. Mag. (1909). p. 100 p. p. Matsum. Ind. Pl. Jap. III. p. 283. R. Knuth l. c. p. 582.

Nom. Jap. Hokogata-fūro.

Hab. Nikkō Chūzenji 27. IX. 1889. (Sawada).
Planta endemica !

101) **Geranium Krameri** Fran. et Sav. Enum. Pl. Jap. II. (1879) p. 366. R. Knuth l. c. p. 192. p. p. (plantæ e Japonia et China ?).

G. Wilfordii Maxim. in Mél. Biol. X. (1880). p. 614. Franch. Pl. Dav. p. 63. Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 98. Kom. Fl. Mansh. II. p. 646. R. Knuth l. c. p. 191.

G. hastatum Nakai in Tokyo Bot. Mag. (1909). p. 100 p. p.
Nom. Jap. Mitsuba-fūro.

Hab. Yeso : Sapporo 11. VIII. 1888. n. 2925, Birō 15. IX. 1889 n. 4838. (Faurie) Horobetsu 8. VIII. 1899, Akkeshi 9. VIII. 1884 (Miyabe) Horoizumi 22. VIII. 1892. (Tokubuchi).

Nippon : Asamayama 14. VIII. 1898 n. 1897., Aomori IX. 1902, Miyadzu 12. X. 1901. (Faurie). Takaosan IX. 1907., Kodachimura VIII. 1910, Chuzenji VI. 1912. (T. Nakai).

Korea : Manjokusan 8. VI. 1909. (T. Nakai). Sanwa 25 VIII. 1911. (Rizikō).

Distr. Manshuria.

Specimina a Rev. U. Faurie lecta (n. 581, n. 228, n. 227, n. 230) sunt species diversæ, quæ ad *G. Koreanum* valde affinis, forsan exqua venit. Stipulæ liberæ sed cetera ingenia toto conveniunt. Partes earundem e. g. n. 227. n. 228. n. 581. a Cl. R. Knuth sub *G. Krameri* collocatæ sunt sed floribus majoribus, sepalis majoribus et distincte striatis statim exquo diversæ. Specimina Chinensia sunt mihi ignota. Utræque formæ foliorum quibus Cl. R. Knuth *G. Krameri* a *G. Wilfordii* discrevit, sæpissime in iisdem plantis occurrunt, ita utræque species sunt una et eadem.

var. **Iinumai** Nakai.

G. Iinumai Nakai in Tokyo Bot. Mag. (1909) p. 100.
Nom. Jap. Fusidakafūro.

Hab. Nippon : Ibukiyama (Funabasi) ibidem 22. VIII. 1909. n. 1955. (J. Nikai).

102) **Geranium nepalense** Sweet. Geran. I. t. 12. Maxim. in Mél. Biol. X. p. 615. Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 98. R. Knuth l. c. p. 192.

G. sibiricum (non L.) Miq. Prol. Fl. Jap. p. 201. Fran. et Sav. Enum. Pl. Jap. I. p. 69.

G. Thunbergii Sieb. et Zucc. Fl. Jap. Fam. Nat. I. p. 136.

Nom. Jap. Genno-shōko (Iinuma Somokudzusetsu Vol. XII. f. 43.)

Hab. Yeso: Hakodate 16. VII. 1888. (R. Yatabe). Sapporo (,,) Hakodate 17. VIII. 1899. (T. Matsumura) secus vias Mori IX. 1904. n. 6152., Otaru 1888. n. 2909, Hakodate VIII. 1888. n. 936. Birō 15. IX. 1889. n. 4837, Kunashiri 13 VIII. 1889 n. 5158. Otaru IX. 1904. n. 6151. (Faurie).

Nippon: Amagisan 11 VI. 1883. (T. Matsumura) Tokyo 27. IX. 1879 (,,)., Kongōsan VIII. 1899. (T. Tada) Nikko 4. X. 1895 (J. Matsumura) ibidem 16. VIII. 1887 (N. Ichikawa) Mihori prov. Suwo 4. IX. 1892 (J. Nikai) Kasugayama prov. Yamato 18 VII. 1883 (R. Yatabe) Aomori VII. 1880 (,,) Usuitōge 19. VIII. 1880 (,,) Tokyo 4 VIII. 1879 (,,) Kyoto 23 VIII. 1889 (S. Ikeno) Hakone 23 VIII. 1885. (R. Yatabe) Asamayama 1. VIII. 1894. (C. Owatari) Aidzu 4. VIII. 1879. (R. Yatabe) Kattasan 16. VIII. 1898 (Y. Yabe) Wakamatsu IX. 1903, Fukusima 10 VIII. 1903. (G. Nakahara). Yokosuka 24 XI. 1880. (R. Yatabe). Nobemura prov. Tōtōmi IX. 1897 (M. Hisamatsu) Rengyakumura prov. Musasi 30 IX. 1885 (R. Yatabe) Nambu 1884., Nanai VI. 1883. n. 29, Kōyasan 26. VIII. 1907, Aomori X. 1900; Hakkodasan 7 VII. 1886. n. 867. (Faurie).

Shikoku: Kurokimura prov. Tosa 3. VIII. 1887. (R. Yatabe) Tsuetateyama 26. VII. 1888, Kuromori 3. VIII. 1888. (T. Makino). Tosa. 18. VIII. 1893. n. 11. 756 (Faurie).

Kiushu: Nisidake prov. Hiuga 5. VIII. 1882. (R. Yatabe et J. Matsumura), Idzuhara insulæ Tsusima 20. VIII. 1901 (Y. Yabe).

Korea: in agris Quelpært X. 1907. n. 188., secus vias Fusan 3. X. 1901. n. 227. (Faurie). Chöngzin 17. VI. 1909. (T. Nakai).

Distr. Himalaya, China et Ceylon.

103) **Geranium Maximowiczii** Regel et Maack in Tent. Fl. Uss. (1861) p. 39 t. III. f. 46. Maxim. in Mél, Biol. X. p. 627. Kom. Fl. Mansh. II. p. 650. Nakai Fl. Kor. II. p. 456.

G. Wlassowianum altera setosopilosa etc. Maxim. Prim. Fl. Amur. (1859). p. 70.

Hab. Korea: Musangryöng 21. VII. 1909. (T. Nakai).

Distr. Ussuri et Amur.

104) **Geranium koraiense** Nakai in Tokyo Bot. Mag. XXV. p. 54. et Fl. Kor. II. p. 456. t. I.

G. Maximowiczi Nakai Fl. Kor. I. p. 113. p. p.

Hab. Korea: Chemulpo 1. IX. 1900 (T. Uchiyama) ad ripas fl. Potonkan 25. VIII. 1909. (H. Imai).

Planta endemica!

105) **Geranium Hattai** Nakai sp. nov.

G. Wlassovianum Nakai Fl. Kor. II. p. 455.

Hac specie ad *G. Koraiense* proxima est, sed exquo differt, planta majore, foliis subtus pubescentibus, floribus intense roseis, filamentis minus barbatis. Et etiam ad *G. Wlassovianum* simulans, sed differt foliis subtus non velutinis sed pubescentibus, supra hirtellis, pilis caulis adpresse-recurvatis.

Specimen unicum. Pars caulis inferior deest. Nodus incrassatus. Folia opposita, inferiora longissime petiolata. Petiolus flexuosus apice pilis adpressis recurvatis dense vestitus. Stipula fusca lineari-lanceolata v. linearia. Lamina dilatata palmato-7–fida, lobis oblongo-quinquangularibus grosse mucronato v. acute-dentatis, supra hirtella, subtus pallida et pubescentia. Folia superiora subsessilia 3–5 fida. Pedunculi graciles biflori-feri rarius 1–floriferi adpresse recurvato-pubescentes. Sepala elliptica longe apiculata barbata, interiora glabra margineque membranacea. Petala intense rosea, sepala duplo superantia. Stamina basi dilatata ubi margine barbata. Columna stylina elongata. Stigmata recurvata. Capsula non vidi.

Hab. Korea sept. Sandō 8. VII. 1909. (K. Hatta).

Planta endemica!

106) **Geranium Knuthii** Nakai sp. nov.

G. Krameri R. Knuth l. c. p. 192. plantæ e Korea.

Caulis usque 60 cm. glaberrimus v. adpresissime recurvato pubescens. Folia inferiora 5–fida longe petiolata, lobis ovato-acuminatis, grosse-ovato-mucronato-dentata, supra sparce pilosa subtus glaberrima v. ad venas puberula. Stipulæ fuscatæ, lanceolato-acuminatæ v. lineari-acuminatæ. Folia superiora sessilia, trifida paucidentata. Pedunculi valde elongati usque 10 cm. attingentes, superiores adpressissime recurvato-pubes-

centes. Pedicelli toto adpressissime recurvato farinoso ciliati, fructiferi declinati. Bracteæ minutæ lanceolatæ 2–5 mm. longæ. Sepala elliptica, interiora margine membranacea 6–7 mm. longa, longe apiculata, apiculis 3 mm. longis, 5 nerviis. 3 eorundem ad apicem attingentibus, primo ad venas puberula sed demum glaberrima. Petala obovata 1.2–1.3 cm. longa basi margine setacea, purpurea, nervis intense purpureis. Filamenta basi dilatata barbata. Fructus cum stylis 4 mm. longis 22–24 mm. longis, rostro brevi. Semina rotundato-elliptica sub lente minutissime impresso-punctulata.

Hab. In herbidis Corea-mediæ 6. IX. 1901. n. 228., 4 IX. 1901. n. 230, in herbidis montium Hoang Haito VIII. 1906. n. 581. (Faurie).

Planta endemica !

107) **Geranium Miyabei** Nakai sp. nov.

G. yesoense R. Knuth l. c. 181. plantæ a Faurie lectæ.

G. yesoense v. *pseudo-palustre* Nakai (spalmate *pseudo-pratense*) in Tokyo Bot. Mag. (1909) p. 103.

A multis botanicis Japonensibus adhuc cum *G. yesoense* et *G. palustre* confusum, sed jam circiter 30 annos ante nomen separatum *Hamafuro* (Lingua Japonica) ab Illus. Dr. K. Miyabe datum, distinctum erat. Hæc species ad et *G. yesoense* et *G. Vlassovianum* simulans, sed differt a primo, foliis minus dissectis, pedunculis et calyce non hirsutis ; a secundo puberibus caulis recurvatis, foliis subtus non velutinis supra hirtellis, columnis stylinis abbreviatis.

Folia radicalia longissime petiolata caulibus subæquantia. Lamina 9–fida, lobis lanceolato-lobulatis, utrinque sparce hirtella. Caulis radicans v. ascendens. Nodus incrassatus. Stipula libera v. connata fuscata. Folia caulina petiolis adpresse-recurvato-ciliatis, laminis 3–7 fidis, lobis rhomboideis, supra sparse-hirtella subtus ad venas puberula. Pedunculi bifloris. Pedicelli adpresse recurvato pubescentes, fructiferi declinati. Sepala elliptica longe apiculata. Petala sepala duplo superantia late-obovata apice subtruncata intense rosea. Columna stylina subnulla.

Nom. Jap. Hamafūro.

Hab. Yeso: Zenibako 15. IX. 1889 (Y. Tokubuchi) ibidem 2 VIII. 1899. (J. Matsumura). Hakodate 20. VIII. 1897. n. 551, Yunokawa 25. VIII. 1897. n. 552, in herbidis Mori IX. 1904. n. 6153. (Faurie). Hakodate 15 VIII. 1899 (J. Matsumura). Hakodate VIII. 1906. (Herb. Mus. Imp.).

Planta endemica.

108) **Geranium japonicum** Fran. et Sav. Enum. Fl. Jap. II. (1879) p. 305. Nakai in Tokyo Bot. Mag. (1909). p. 102. Knuth Geraniaceæ p. 135.

G. Sieboldii Maxim. in Mél, Biol. X. (1880) p. 622. Kom. Fl Mansh. II. p. 648. Nakai Fl. Kor. I. p. 113. II. p. 456. Knuth. l.c.

Nom. Jap. Tachifuro.

Hab. Nippon: Nasusan 30. VII. 1897. n. 554, Asamayama VII. 1904. n. 6150 (Faurie) Ontake VIII. 1910 (G. Koidsumi) ibidem 11. VIII. 1911 (J. Nikai). Matsuoka prov. Hitachi 21. VIII. 1899. (J. Matsumura), Nikko 16. VIII. 1885 (Sawada) Fujimimura prov. Kai 6, VIII. 1880, Mito 11 VIII. 1890 (S. Ikeno) Uruidohara prov. Kadsusa IX. 1880 (?). Fuji 27. VII. 1881 (?) Rengyakumura prov. Musasi 30. IX. 1885, Shirakawa prov. Iwashiro 30 VIII. 1878 (?). Tokyo 19. IX. 1880 (?). Karikarazyuku prov. Shinano 19 VII. 1880 (?). Asamayama 28 VII. 1894 (C. Owatari).

Korea: Chyang-yöngri 13. VIII. 1902, Shöfun. 8. IV. 1902. (T. Uchiyama) in herbidis Chinampo VIII. 1902. n. 582. ibidem VIII. 1906. n. 1767, in herbidis Coreæ mediæ 5 IX. 1901 n. 229 (Faurie) Hoinyöng 15 VIII. 1909. (K. Maeda).

Distr. Manshuria.

109) **Geranium napuligerum** Franch. Pl. Delav. (1889) p. 115. R. Knuth l. c. p. 143

Hab. Korea: in Hallaisan 2000 m. VIII. 1907. n. 1760. (Faurie).

Distr. China.

110) **Geranium yesoense** Fran. et Sav. Enum. Pl. Jap. II. (1879) p. 305. Maxim. in Mél, Biol. X. (1880) p. 624. Nakai in Tokyo Bot. Mag. (1909). p. 101. Knuth l. c. p. 181.

G. erianthum A. Gray Bot. Jap. p. 383. p. p. Miq. Prol. Fl. Jap. p. 201. p. p. Fran. et Sav. Enum. Pl. Jap. I. p. 69. p. p. (non DC.).

Nom. Jap. Ezo-furo.

Hab. Yeso: Hakodate 6. VII. 1887. n. 592. (Faurie) ibidem 16. VII. 1885 (?). Etorofu V. 1899. (A. Tsunematsu).

var. **nipponicum** Nakai var. nov.

G. dahuricum (non DC.) Maxim. in Mél, Biol. X. p. 456. p. p. Fran. et Sav. Enum Pl. Jap. II. p. 303. Nakai in Tokyo Bot Mag. XXV. (1909). p. 102. Matsum. Ind. Pl. Jap. III. p. 282 R. Knuth l. c. p. 141. p. p.

G. pseudo-sibiricum (non J. Meyer) Fran. et Sav. l. c. p. 302. (excl. syn.).

Nom. Jap. Hakusanfuro (Iinuma Sōmokudzusetsu Vol. 12. t. 45.). Akanumafuro v. Shiroumafuro.

Forma et magnitudo plantæ est variabillimi sed *G. yesoense* proximum est, et præsertim foliorum et florum forma satis congruit. Caulis autem minus pubescens et calyx non dense hirsutus.

Hab. Nippon: Gassan 28. IV. 1897. n. 553, Yamagata VII. 1889. n. 4373, Asamayama 20. VII. 1897. n. 549, Ibukiyama 16. VII. 1898. n. 1892, Iidesan 30 VIII. 1898 n. 1896, Komagatake IX. 1905 n. 6995, Norikura 2500 m. 28. VIII. 1905 n. 6995 (Faurie) Ibukiyama 22, VIII. 1909 n. 1953. n. 1954. (J. Nikai) ibidem. 1. VIII. 1881. (R. Yatabe) Chōkaisan 28. VII. 1887 (?) ibidem. 6. VIII. 1903. (G. Nakahara) Hakusan 8. VIII. 1881. (?) 14 VIII. 1909 n. 1952 (J. Nikai) Asamayama 22. VIII. 1894. (Owatari) ibidem 20 1880 (R. Yatabe). Nikko 2. VIII. 1878 (?). Yumoto 16 VIII. 1887 (N. Ichikawa). Yatsugatake 21 VIII. 1902 (Y. Yabe) Gassan 23 VII. 1887 (?) ibidem 10 VIII. 1903 (G. Nakahara) Shirouma 26 VII. 1903. (Y. Yabe). Komagatake 3. VIII. 1880 (R. Yatabe). Shirouma VIII. 1905 (T. Uchiyama) Akagisan 25. VII. 1903 (B. Hayata) Iidesan 10 VIII. 1904 (G. Nakahara) Akanuma VIII. 1883, Komagatake VII. 1875, Ontake VIII. 1875, Nikko IX. 1874, Wadatōge VII. 1875, Hakusan VIII. 1901. (Herb. Mus. Imp.).

Ibukifuro a Y. Iinuma in Somokudzusetsu Vol. XII. f. 44. del neatum, est forma depauperata, quam sub nomine *G. davuricum* f. *lobulatum* descripsi in Tokyo Bot. Magazine (1983). p. 53. Hæc planta, tamen, petala lobata aut integra mixta habet ut in *G. yesoense*, *G. shikokianum* etc., et in forma majora petala lobata sunt vulgaris, ita hic reducavi sub eandem varietatem.

A List of Plants collected in Hang-chou, Cheh-kiang, by K. Honda.

(*Continued from p. 236.*)

by

S. Matsuda.

XXI. **Leguminosæ.**

68. **Aeschynomene indica** L.; DC. Prodr. II. 320; Benth. Fl. Hongk. 70; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 170; Diels in Engl. Bot. Jahrb. XXIX. 413.

Ken-shan-mun (艮山門), Oct., (no. 664); Kong-tsen-chau (拱宸橋), Nov., (no. 545).

Nom. Jap. *Kusanemu.* (合歓).

69. **Amphicarpæa Edgeworthii** Benth. **var. japonica** Oliv. in Journ. Linn. Soc. IX. 164; Forb. et Hemsl. l. c. 188; Diels l. c. 417. Ching-tai-mun (清泰門), Sept., (no. 381).

Nom. Jap. *Yabumame.*

70. **Astragalus sinicus** L.; Bot. Mag. t. 1350; Forb. et Hemsl. l. c. 166; Diels l. c. 413.

Tsen-tang-mun (錢塘門), Apr., (no. 926); Bong-chan-mun (望江門), Apr., (no. 854).

Nom. Jap. *Genge* (紫雲英),

71. **Cæsalpinia sepiaria** Roxb. Fl. Ind. II. 360; Walp. Rep. I. 810; Bak. in Hook. f. Fl. Brit. Ind. II. 256; Forb. et Hemsl. l. c. 206; Diels l. c. 410.

Ku-shan (孤山), Mai., (nos. 1173, 1174, 1175).

Nom. Jap. *Jaketsu-ibara.*

72. **Caragana Chamlagu** Lam.; DC. Prodr. II. 268; Forb. et Hemsl. l. c. 163; Diels l. c. 412.

Wang-sung-ling (萬松嶺), Mai., (no. 1204).

Nom. Jap. *Mure-suzume.*

73. **Crotalaria sessiliflora** L.; DC. Prodr. II. 129; Bak. in Hook. f. Fl. Brit. Ind. II. 73; Forb. et Hemsl. l. c. 152; Diels l. c. 411.

Chi-ling (葛嶺), Oct., (nos. 84, 87); Ku-shan (孤山), Sept., (no. 482).

Nom. Jap. *Tanuki-mame.*

74. **Desmodium oxyphyllum** DC. **var. villosum** Matsum. in Bot. Mag. Tokyo XVI. (1902) 59.

Ken-shan-mun (艮山門), Oct.; (no. 713).

Nom. Jap. *Maruba-nusubito-hagi.*

75. **D. podocarpum** DC. Prodr. II. 336; Baker in Hook. f. Fl. Brit. Ind. II. 165; Forb et Hemsl. l. c. 174; Diels l. c. 414.

Tai-pin-mun (太平門), Oct., (no. 397); Ku-shan (孤山), Aug., (no. 119); Ken-shan-mun (艮山門), Aug. no. 478; Chi-ling (葛嶺), Aug., (no. 840).

Nom. Jap. *Nusubito-hagi.*

No. 840 is imperfect and doubtful.

76. **Dolichos Lablab** L., Forb. et Hemsl. l. c. 194; Diels l. c. 419.

Tai-pin-mun (太平門), Aug., (no. 852); Sept., (nos. 391, 395, 680); Oct., (nos. 493, 703, 801); Ching-tai-mun (清泰門), Sept., (no. 439).

Nom. Jap. *Fuji-mame.*

77. **Glycine Soja** Sieb. et Zucc. Fam. Nat. Fl. Jap. II. 119; Forb. et Hemsl. l. c. 188; Diels l. c. 417.

Ching-tai-mun (清泰門), Sept., (no. 403); Ku-shan (孤山), Oct., (no. 486, 489); Tai-pin-mun (太平門), Aug., (no. 505).

Nom. Jap. *Yabumame.*

78. **Indigofera Pseudo-tinctoria** Matsum. in Bot. Mag. Tokyo XVI. (1902) 44.

Chiu-you-shan (九曜山), Mai., (no. 1354); Ku-shan (孤山), Oct., (nos. 15, 179); Ya-feng (岳墳), Sept., (no. 479).

Nom. Jap. *Komatsunagi.*

79. **I. venulosa** Champ.; Benth. Fl. Hongk. 77; Forb. et Hemsl. l. c. 158.

Chi-ling (葛嶺), April, (no. 1153).

80. **Lespedeza bicolor** Turcz., Max. in Acta Horti Petrop. II. 355; Forb. et Hemsl. l. c. 179; Diels l. c. 415.

Chi-ling (葛嶺), Aug., (nos. 401, 495. 497).

Nom. Jap. *Hagi* (胡枝).

var. intermedia Max. l. c. ?

Ya-feng (岳墳), Oct., (no. 413).

Fl. 13 mm. long; in the type nearly 10 mm.

81. **L. juncea** Pers. var. **sericea** Max. in Acta Horti Petrop. II. 368 (sp. propria).

Po-su-tang (寶叔塔), Oct., (no. 338); Ku-shan (孤山), Sept., (no. 486); Ya-feng (岳墳), Oct., (no. 475); Chi-ling (葛嶺), (no. 106); Ken-shan-mun (艮山門), Oct., (no. 637).

Nom. Jap. *Medo-hagi.*

82. **L. striata** Hook. et Arn. Bot. Beech. Voy. 262; Benth. Fl. Hongk. 85; Max. l. c. 382; Forb. et Hemsl. l. c. 182; Diels l. c. 415.

Chi-ling (葛嶺), Oct., (no. 491); Ken-shan-mun (艮山門), Aug., (no. 567 ?); Tsen-tang-mun (錢塘門), Oct., (no. 335).

Nom. Jap. *Yahazu-so.*

var. stipulacea Makino; Max. (sp. prop.) Prim. Fl. Amur. 85.

Ken-shan-mun (艮山門), Sept., (no. 466); Oct., (no. 108); Chi-ling (葛嶺), Oct., (nos. 112, 492); Tai-pin-mun (太平門), Nov., (no. 402).

Nom. Jap. *Maruba-yahazuso.*

83. **L. virgata** DC.; Forb. et Hemsl. l. c. 183; Diels l. c. 415.

Chi-ling (葛嶺), Oct., (no. 494).

Nom. Jap. *Makie-hagi.*

84. **Medicago denticulata** Willd. Sp. Pl. III. 1414; DC. Prodr. II. 176; Bak. in Hook. f. Fl. Brit. Ind. II. 90; Forb. et Hemsl. l. c. 153; Diels l. c. 411.

Wu-po (五堡), Apr., (nos. 861, 983, 984).

Nom. Jap. *Umagoyashi.*

85. **Pisum sativum** L.; Forb. et Hemsl. l. c. XXIII. 187 (*in note*).

Ken-shan-mun (艮山門), Apr., (no. 1061); Bong-chan-mun (望江門), April, (nos. 989, 1031).

Nom. Jap. *Endo* (豌豆).

86. **Pueraria Thunbergiana** Benth. in Journ. Linn. Soc. Bot. IX. 122; Forb. et Hemsl. l. c. 191; Diels l. c. 417.

Tai-pin-mun (太平門), Sept., (nos. 130, 466); Oct., (no. 465).

Nom. Jap. *Kuzu* (葛).

87. **Rhynchosia volubilis** Lour. Fl. Cochinch. 460; DC. Prodr. II. 385; Benth. Fl. Hongk. 90; Max. in Mél. Biol. IX. 70; Forb. et Hemsl. l. c. 196; Diels l. c. 418.

Ching-tai-mun (清泰門), Oct., (no. 347).

Nom. Jap. *Tankiri-mame.*

88. **Sophora flavescens** Ait. Hort. Kew. ed. 1, II. 43; Willd. Sp. Pl. II. 499; DC. Prodr. II. 96; Forb. et Hemsl. l. c. 202; Diels l. c. 410.

Chiu-you-shan (九曜山), Jun., (nos. 1361, 1362).

This plant is probably of var. *β. galegoides* Ledeb. Fl. Ross. I. 716 (*β. floribus violascentibus*=*S. galegoides* Pall.); though the color of flowers is not distinct in dried specimens.

89. **Thermopsis chinensis** Benth.; S. Moore in Journ. Bot. (1878) 131; Hemsl. l. c. 150, pro parte (sec. Matsum.); Matsum. et Ito, Tentam. Fl. Luchuensis 126.

Yi-po (一堡), Apr., (no. 83–85); Mai., (no. 1332).

Moore described the flowering specimen of this species, but did not see one with mature fruit. My Han-chow specimen well agrees with his description, except that flower being about 2 cm. long is in no way smaller than that of Th. fabacea or subequal to it. Both the Han-chow- and Shang-hai specimens, which I saw, have much broader pod than the Loochoo ones examined by Prof. J. Matsumura, and also than Th. fabacea, the pod being 9 mm. in width; (that of the Loo-choo specim. and of Th. fabacea is 7 mm. across). The seed of the Shang-hai specimen, I saw, is very similar to that of the Loo-choo one, and is subovoid, 3.5 mm. long, dark brown.

90. **Vicia hirsuta** Koch ; Forb. et Hemsl. l. c. III ; Diels l. c. 416 ; =*Ervum hirsutum* L.; DC. Prodr. II. 366 ; Ledeb. Fl. Ross. I. 663.

Ya-feng (岳墳), Apr., (no. 913); Tai-pin-mun (太平門), Apr.? (no. 743).

Nom. Jap. *Suzume-no-endo.*

91. **V. sativa** L.; DC. Prodr. II. 360 ; Forb. et Hemsl. l. c. 185 ; Diels l. c. 416.

Ken-shan-mun (艮山門), Apr., (no. 1071) ; Ya-feng (岳墳), Apr., (no. 977) ; Ghi-tsen (玉泉), Apr., (no. 988).

Nom. Jap. *Yahazu-endo.*

92. **V. tetrasperma** Mœnch.; Forb. et Hemsl. l. c. 185 ; Diels l. c. 416 ; =*Ervum tetraspermum* L.; Ledeb. Fl. Ross. I. 663.

Ken-shan-mun (艮山門), Apr., (no. 1104-1106) ; Tai-pin-mun (太平門), Apr., (no. 1062).

Nom. Jap. *Kasuma-gusa.*

93. **Vigna vexillata** Benth. Fl. Austral. II. 258 ; Baker in Hook. f. Fl. Brit. Ind. II. 206 ; Trimen, Hand-Book, Fl. Ceyl. II. 74 ; Forb. et Hemsl. l. c. 193 ; Diels l. c. 419 ; Makino in Bot. Mag. Tokyo XXIV. 222 ;

var. tsusimensis Matsum. in Bot. Mag. Tokyo XVI. 93.

Tai-pin-mun (太平門), Aug., (no. 503) ; Oct., (no. 401) ; Ku-shan (孤山), Sept., (no. 487).

Nom. Jap. *Akasasage.*

According to Baker the pod of the type is glabrescent, and silky at first ; but in the Chinese specimens, as well as in Tsushima one, it is clothed with dense brownish hairs.

As to the color of the fl. of this sp., the authors cited above differ in their statement, thus :

Flowers greenish-yellow, more or less tinged with purple. ——Benthum.

Corolla reddish purple.——Baker.

Flowers pink or rose-colored.——Trimen.

94. **Wistaria chinensis** (Sims) DC.; Forb. et Hemsl. l. c. 161 ; Diels l. c. 412 ; =*Glycine chinensis* Sims, Bot. Mag. t. 2083 ; =Krawnhia floribunda (Willd.) Taubert ;

var. β. sinensis (Sims) Makino in Bot. Mag. Tokyo XXV. 18.
Lung-ching (龍井), Apr., (nos. 1075, 1077, 1079).
Nom. Jap. *Fuji* (紫藤).

XXII. Rosaceæ.

95. **Agrimonia Eupatoria** L.; DC. Prodr. II. 587; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 246.

Ken-shan-mun (艮山門), Oct, (no. 495); Tai-pin-mun (太平門), Oct., (nos. 176, 491, 660, 661); Ku-shan (孤山), Oct., (no. 725).

Nom. Jap. *Kinmidzuhiki.*

96. **Cratægus cuneata** Sieb. et Zucc. Fl. Jap. Fam. Nat. no. 61 (p. 130); Max. in Mél. Biol. IX. 175; Forb. et Hemsl. l. c. 259; = *Mespilus cuneata* Diels in Engl. Bot. Jahrb. XXIX. 390.

Wang-sung-ling (萬松嶺), Mai., (no. 1205); Wu-shan (吳山), Apr, (no. 1122); —— (no. 846).

Nom. Jap. *San-zashi* (山楂子).

97. **Duchesnea indica** (Andr.) Sm.; Diels l. c. 401; = *Fragaria indica* Andr.; DC. Prodr. III. 571; Hook. f. Fl. Brit. Ind. II. 343; Franchet, Fl. David. 110.

Swi-shing-kau (水星閣), Apr., (no. 896); Yu-ching-mun (湧金門), Feb., (no. 926); Ken-shan-mun (艮山門), Oct., (nos. 125, 485).

Nom. Jap. *Hebi-ichigo.*

98. **Exochorda grandiflora** Lindl. in Gard. Chron. (1858) 1., 925; Forb. et Hemsl. l. c. 228; Diels l. c. 384; = *Spiræa grandiflora* Hook. Bot. Mag. t. 4795.

Chi-ling (葛嶺), Apr., (no. 998); Jun., (no. 1330); Tsu-yun-dong (紫雲洞), Apr., (no. 1046–1048).

99. **Photinia serrulata** Lindl. in Trans. Linn. Soc. XIII. 103; Bot. Mag. t. 2105; Forb. et Hemsl. l. c. 263; Diels l. c. 388.

Ken-shan-mun (艮山門), Nov., (nos. 646, 750, 751); Ching-tai-mun (清泰門), Apr., (nos. 149, 1150, 1224); Ling-yin (靈隱), Apr., (no. 1208).

100. **Ph. variabilis** Hemsl. in Journ Linn. Soc. XXIII 263; = *Cratægus villosa* et *C. lævis* Thunb. Fl. Jap. 204; = *Pourthiæa variabilis* (Hemsl.) Diels l. c. 388.

Po-kau-fung (北高峰), Mai., (nos. 1184, 1231).

Nom. Jap. *Kamatsuka.*

Hemsley's *variabilis* include several forms. Thunberg's *villosa* is described as having the peduncles villous, but the present specimen has smooth one.

101. **Potentilla Freyniana** Bornm.; Wolf's Monogr. in Bibliotheca Botanica XVI. 639; = *P. fragarioides* L. *var. ternata* Max. in Mél. Biol. IX. 159; Fr. et Sav. Enum. Pl. Jap. II. 337.

Shang-tien-zo (上天竺), Apr., (no. 930).

Nom. Jap. *Mitsuba-tsuchiguri.*

This species is not cited by both Hemsely and Diels, but it is perhaps included in P. Fragarioides L. which these authors cite.

102. **Prunus Armenica** L.; Max. in Mél. Biol. XI. 673; Forb. et Hemsl. l. c. 217; Diels l. c. 407; Schneider, Handb. d. Laubholzk. I. 637.

Yen-ya-dong (烟霞洞), Apr., (no. 1088).

Nom. Jap. *Anzu* (杏).

103. **P. communis** Huds.; Forb. et Hemsl. l. c. 218; Diels l. c. 407.

Pon-shan (半山), Mai., (no. 1276); Tong-shing-kwan (燈星關?), Apr., (nos. 897, 898).

Nom. Jap. *Sumomo* (李).

Determination of Tong-shing-kwan specimen is not satisfactory.

104. **P. japonica** Thunb. Fl. Jap. 201; Sieb. et Zucc. Fl. Jap. I. 172, t. 90; Max. in Mél. Biol. XI. 684 (varieties); Forb. et Hemsl. l. c. 219; Diels l. c. 407; Bot. Mag. t. 8260.

Chi-ling (葛嶺), Apr., (nos. 902, 912, 974, 999); Tsu-yun-dong (紫雲洞), Apr., (no. 794).

Nom. Jap. *Niwa-ume* (郁李).

Bot. Mag. t. cited above represents a plant with the flower slightly tinged with purple, and with the ovary slightly pilose. In the present specimen the flower is apparently white, and the ovary smooth.

105. **Raphiolepis japonica** Sieb. et Zucc. Fl. Jap. I. 162; Max. in Mél. Biol. IX. 181 et in Engl. Bot. Jahrb. VI. 63; Bot. Mag. t. 5510 (*var. integerrima*); Forb. et Hemsl. l. c. 264.

Si-ya-ling (栖霞嶺), Mai., (no. 1202).

Nom. Jap. *Hama-mokkoku.*

The present specimen is not of the *var. integerrima.*

106. **Rosa bracteata** Wendl.; DC. Prodr. II. 602; Bot. Mag. t. 1377; Forb. et Hemsl. l. c. 249.

Tai-pin-mun (太平門), Nov., (nos. 363, 365);— —(no. 845).

A specimen from the isle Yaeyama, the Loo-choo, has the branches tomentous, and covered with aciculis; and Koidzumi identifies it with *var. scabriuscula* Lindl. (nom. Jap.: Yaeyama-noibara or Kakayan-bara). The present specimen has smooth branches.

107. **R. lævigata** Michx.; DC. Prodr. II. 600; Forb. et Hemsl. l. c. 250; Diels 406.

Lho-wo-tang (六和塔), Mai., (no. 1187).

Nom. Jap. *Naniwa-bara* (金櫻子).

108. **R. multiflora** Thunb. Fl. Jap. 214; DC. Prodr. II. 598; Hook. f. Fl. Brit. Ind. II. 364; Bot. Mag. t. 1059; Forb. et Hemsl. l. c. 253; Diels l. c. 405 (*var. adenophora* Fr. et Sav.).

Tai-pin-mun (太平門), Nov., (no. 744); Ya-feng (岳墳), Mai., (no. 1255); Swi-shing-kau (水星閣), Mai., (nos. 1190, 1191); Chi-ling (葛嶺), Apr., (nos. 1145, 1146); Ku-shan (孤山), Mai., (no. 1239).

Nom. Jap. *Noibara.*

109. **Rubus corchorifolius** L. f.; DC. Prodr. II. 567; Forb. et Hemsl. l. c. 230; =*R. villosus* Thunb. Fl. Jap. 218.

var. β. Oliveri (sp. prop.) Miq. in Ann. Mus. Bot. Lugd.-Bat. III. 35; Focke in Engl. Bot. Jahrb. XXIX 391.

Mo-cha-bu (茅家埠), Apr., (no. 924); Shan-tien-zo (上天竺), Apr., (no. 853).

Nom. Jap. *Birodo-ichigo.*

110. **R. Lambertianus** Ser. in DC. Prodr. II. 567; S. Moore in Journ. Bot. (1875) 226; Max. in Mél. Biol. VIII. 381; Forb. et Hemsl. l. c. 233; Focke in Bibliotheca Botanica, Heft 72, p 70.

Subsp. Xanthoneurus (sp. prop) Focke in Engl. Bot. Jahrb. XXIX. 392, et in Bibliotheca Bot. l. c.

Tai-pin-mun (太平門), Sept., (no. 45) ; Oct., (nos. 42, 73, 161) ; Ku-shan (孤山), Sept., (no. 150).

Nom. Jap. *Shimabara-ichigo.*

111. **R. Thunbergii** Sieb. et Zucc , Fl. Jap. Fam. Nat. no. 64 ; Max. in Mél, Biol. VIII. 389 ; Forb. et Hemsl. l. c. 238.

Wu-shan (吳山), Apr., (nos. 899, 900) ; Ya-feng (岳墳), Apr., (no. 980).

Nom. Jap. *Kusaichigo* (蓬藁).

112. **R. triphyllus** Thunb. Fl. Jap. 215 ; Focke in Engl. Bot. Jahrb. XXIX. 397 ;=*R. parvifolius* Auct.

Bong-chan-mun (望江門), Apr., (no. 1113).

Nom. Jap. *Nawashiro-ichigo.*

113. **Sanguisorba officinalis** L.; DC. Prodr. II. 593; Max. in Mél. Biol. IX. 153 ; Diels l. c. 404 ;=*Poterium officinale* Benth. et Hook. f. Gen. Pl. I. 624 ; Forb. et Hemsl. l. c. 247.

Ya-feng (岳墳), Sept., (no. 33).

Nom. Jap. *Waremokō.*

114. **Spiræa prunifolia** Sieb. et Zucc.; Fl. Jap. I. 131, t. 70 ; Forb. et Hemsl. l. c. 226 ; Diels l. c. 382.

San-tai-shan (三台山), Apr. (no. 1036).

Nom. Jap. *Shizimi-bana.*

In the present specimen the flower is normal. It has comparatively shorter pedicels than that of the double-flowered variety.

XXIII. Saxifragaceæ.

115. **Philadelphus coronarius** L.; Max. Revis. Hydrang. As. Or. 36 ; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 277.

var. Satsumi (Sieb.) Max. l. c. 40 ?

Pi-lai-fung (飛來峰), Mai., (no. 1323).

Nom. Jap. *Satsuma-utsugi* ?

116. **Saxifraga sarmentosa** L. f.; DC. Prodr. IV. 44; Engl. Monogr. 153 ; Max. in Mél. Biol. VIII. 597 ; Bot. Mag. 92 ; Forb. et Hemsl. l. c. 268; Diels in Engl. Bot. Jahrb. XXIX 365.

Ghi-tsen (玉泉), Mai., (no. 1270–1272).

Nom. Jap. *Yukinoshita* (虎耳草).

Diels cites *var. immaculata* Diels which has immaculate petals. The flower of the present plant has the petals (the minor ones) maculate.

XXIV. Crassulaceæ.

117. **Cotyledon japonica** Max. in Mél. Biol. XI. 724.

Yu-ching-mun (湧金門), Oct., (nos. 163, 655, 730, 769, 771, 816, 819).

Nom. Jap. *Tsume-renge.*

118. **Penthorum sedoides** L.; DC. Prodr. III. 414; Max. in Mél. Biol. XI. 774; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 288.

var. chinense (Pursh.) Diels in Engl. Bot. Jahrb. XXIX. 363; Regel (sp. prop.) Fl. Ussur. t. 6. figg. 1–4; = *P. sedoides* L., *forma angustifolia* Miq. in Ann. Mus. Bot. Lugd.-Bat. II. 76.

Ku-shan (孤山), Sept, (no. 3); Oct., (no. 1).

Nom. Jap. *Takonoashi.*

The type is described as having lanceolate leaves, while *var. chinense* as having elongated linear, lanceolata leaves. Without seeing the specimens, the distinction is not clear. Hemsley united the two forms; but here I follow Diels in retaining *var. chinense*.

119. **Sedum sarmentosum** Bunge, Enum. Pl. Chi. Bor. 30; Wall. Rep. II. 262; Max. in Mél. Biol. XI. 764; Forb. et Hemsl. l. c. 286; Diels l. c. 362.

Chang-kang (江干), Mai., (no. 1372).

Diels cites *f. major* Diels which has leaves 2.5–2.8 × .7 cm. The present specimen is not of this form.

120. ? **S. Telephium** L; Max. in Mél. Biol. XI. 752; Forb. et Hemsl. l. c. 287; Diels l. c. 361.

Po-su-tang (寶叔塔), Oct., (no. 632).

In the present specimen, as well as in Japanese one, I notice that the pedicels and peduncles are winged, though this character is not spoken of in the works cited.

XXV. Droseraceæ.

121. **Drosera peltata** Sm. in Willd. Sp. Pl. I. 1546; DC. Prodr. I. 319; Benth. Fl. Austr. II. 465; Clarke in Hook. f. Fl. Brit. Ind. II. 424; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 289.

var. lunata (Buchan., DC. Prodr. l. c.) Clarke l. c.; Hook. Ic. Pl. t. 54 (sp. prop.).

Chi-ling (葛嶺), Mai., (no. 1282–1285).

Nom. Jap. *Ishimochiso* (茅膏菜).

In De Caudolle's Prodr. l. c., *D. peltata* is described as having ciliato-glandulous calyx; Benthann describes it as having hairy sepals; and Clarke describes his *var. lunata* as having rosulate leaves early deciduous, sepals erose or but slightly fimbriate. Both the present Chinese specimens and Japanese ones have deciduous rosulate leaves and erose or fimbriate sepals which are glabrous.

XXVI. Hamamelidaceæ.

122. **Loropetarum chinense** R. Br.; S. Moore in Journ. Bot. (1878) 138; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 290; Diels in Engl. Bot. Jahrb. XXIX. 381 [*L. sinense* R. Br.].

Si-ya-ling (栖霞嶺), Mai., (no. 1199).

Nom. Jap. *Tokiwa-mansaku* (機花——博物之友 no. 46).

XXVII. Halorrhagidaceæ.

123. **Myriophyllum spicatum** L.; DC. Prodr. III. 68; Sow. Eng. Bot. IV. t. 514; Clarke in Hook. f. Fl. Brit. Ind. II. 433; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 293.

Tai-pin-mun (太平門), Oct., (nos. 688, 689, 691).

Nom. Jap. *Hozaki-fusamo.*

Sterile specimen, determination unsatisfactory.

XXVIII. Onagraceæ.

124. **Ludwigia prostrata** Roxb. Fl. Ind. I. 420. DC. Proder. III. 59; Clake in Hook. f. Fl. Brit. Ind. II. 588; Forb. et Hemsl.

in Journ. Linn. Soc. XXIII. 309; Diels in Engl. Bot. Jahrb. XXIX. 484.

Ken-shan-mun, (艮山門), Aug.; Ku-shan (孤山), Oct.

Nom. Jap. *Chōji-tade.*

125. **Trapa natans** L.; DC. Prodr. III. 63; Clarke in Hook. f. Fl. Brit. Ind. II. 590; Forb. et Hemsl. l.c. XXIII. 311; Diels l.c. 485.

Si-hu (西湖), Oct., (no. 467).

Nom. Jap. *Hishi* (菱).

XXIX. **Cucurbitaceæ.**

126. **Actinostemma racemosa** Max.; Cogn. in DC. Monogr. III. 922; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 320; = *A. japonicum* Miq. in Ann. Mus. Bot. Lugd.-Bat. III. 188.

Ku-shan (孤山), Aug., (no. 472); Nov., (no. 149).

Nom. Jap. *Gokidzuru* (合子草).

127. **Citrullus vulgaris** Schrad.; Cogn. in DC. Monogr. III. 508; Forb. et Hemsl. l.c. 318 (*in note*).

Ken-shan-mun (艮山門), Sept., (no. 618).

Nom. Jap. *Suikwa* (西瓜).

128. **Cucumis Melo** L.; DC. Prodr. III. 300; Clarke in Hook. f. Fl. Brit. Ind. II. 620; Cogn. in DC. Monogr. III. 482; A. DC. Orig. Pl. cult. 205; Frob. et Hemsl. l.c. 317.

Tai-pin-mun (太平門), Sept., (no. 469).

129. **Thladiantha villosula** Cogn. (Mss.—Henry's collection, no. 6144 A.); Diels in Engl. Bot. Jahrb. XXIX. 603.

Kong-yuan (貢院), Aug., (no. 577); Oct. ? (no. 546); Ken-shan-mun (艮山門), Oct., (nos. 590, 597).

130. **Trichosanthes Kirilowii** (?) Max. Prim. Fl. Amtr. 482 (*in note*); Cogn. in DC. Monogr. III. 370; Forb. et Hemsl. l.c. 313.

San-tai-shang (三台山), Jun., (no. 1377).

This species is allied to *T. japonica* Reg., but it has much shorter petiole. Corean specimen, I saw, has fl. solitary, bract at the base of peduncle. In the present specimen raceme is few-flowered, and the bract is near the fl. cluster.

XXX. Ficoideæ.

131. **Mollugo stricta** L.; DC. Prodr. 1391. Benth. Fl. Hongk. 23; Clarke in Hook. f. Fl. Brit. Ind. II. 163; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 324.

Ching-tai-man (清泰門), Oct., (no. 51.)

Nom. Jap. *Zakurosō.*

XXXI. Umbelliferæ.

132. **Anthriscus sylvestris** Hoffm.; DC. Prodr. IV. 223. Ledeb. Fl. Ross. II. 346; Forb. et Hemsl. in Journ. Linn. Soc. Bot. XXIII. 330; K. Miyabe, Fl. Kurile Isl. 235; Diels in in Engl. XXIX. 492; =*Chaerophyllum sylvestris* L.; Sow. Eng. Bot. t. 752; *Ch. seminibus nitidis scabris,* Gmel. Fl. Sibir. I. p. 210, no. 26, t. 49.

Lei-fung-tang (雷峰塔), Apr., (nos. 1018, 1059, 1060).

Nom. Jap. *Shaku.*

132. **Apium graveolens** L, Clarke in Hook. f. Fl. Brit. Ind. II. 679; Forb. et Hemsl. l.c. 328.

Bong-chan-mun (望江門), Mai., (no. 1321).

Nom. Jap. *Oranda-Mitsuba.*

133. **Caucalis scabra** Makino in Bot. Mag. Tokyo VII. 14; Yabe, Rev. Umbel, Jap. 27; Boiss. in Bull. Soc. Bot. France (1910) 412.

Ken-shan-mun (艮山門), Apr., (no. 1154–1156).

Nom. Jap. *Oyabu-jirami.*

134. **Cryptotaenia japonica** Hassk.; Max. in Mél. Biol. XII. 467; Ito et Matsum. Tent. Fl. Lutch. I. 528; Yabe, Rev. Umbel. 39; =*C. canadensis* Sieb. et Zucc. Fl. Jap. Fam. Nat. n. 424, (non DC.); A Gr. Bot. Jap. 391; Miq. Prol. Fl. Jap. 246; Hance in Journ. Bot. III. (1865) 340; V. (1867) 114 et VIII. (1870) 276. Fr. et Sav. Enum. Pl. Jap. I. 182; Forb. et Hemsl. l.c. 329; Diels l.c. 494.

San-tai-shan (三台山), Jun., (no. 1376).

Nom. Jap. *Mitsuba-Zeri.*

135. **Daucus Carota** L.; DC. Frodr. IV. 211; Forb. et Hemsl. 336. Diels l.c. 504.

Ken-shan-mun (艮山門), Oct., (nos. 604, 609, 6010, 626); Nov., (no. 71).

Nom. Jap. *Ninjin* (胡蘿蔔).

136. **Nothosmyrnium japonicum** Miq. Prol. Fl. Jap. 246; Fr. et Sav. Enum. Pl. Jap. I. 182; Forb. et Hemsl. l.c. XXIII. 329; Yabe, Rev. Umbel. 51.

Tai-pin-mun (太平門), Oct., (no. 460?).

Nom. Jap. *Kasamochi* (藁本).

137. (?) **Peucedanum terebinthaceum** Fisch. Ledeb. Fl. Ross. II. 314; Forb. et Hemsl. l.c. 335; Diels l.c. 502.

Ku-shan (孤山), Dec., (no. 362).

Nom. Jap. *Shirakawa-bōfuu*?

138. **Pimpinella diversifolia** DC. Clarke in Hook. f. Fl. Brit. Ind. II. 688; Forb. et Hemsl. l.c. 329; Diels l.c. 496; Yabe, Rev. Umbel. 49; =*P. sinica* Hance in Journ. Bot. (1861), 133.

Ken-shan-mun (艮山門), Sept., (no. 90); Wu-lin-mun (武林門), Oct., (no. 707).

Nom. Jap. *Mitsuba-gusa*.

XXXII. Cornaceæ.

139. **Hedera Helix** L.; DC. Prodr. IV. 261; Ledeb. Fl. Ross. II. 375; Clarke in Hook. f. Fl. Brit. Ind. II. 739; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 343; Diels in Engl. Bot. Jahrb. XXIX. 486.

Ya-feng (岳墳), Oct., (nos. 734, 763); Chi-ling (葛嶺), Oct., (no. 424); Tsen-tang-mun (錢塘門), Mar., (nos. 936, 937); Nov., (no. 304).

Nom. Jap. *Kidzuta* (常春藤).

XXXIII. Araliaceæ.

140. **Acanthopanax spinosum** Miq. in Ann. Mus. Bot. Lugd.-Bat. I. 10; Seem. in Journ. Bot. V. 238; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 341; Diels in Engl. Bot. Jahrb. XXIX. 489; =*Aralia pentaphylla* Thunb. Fl. Jap. 128; DC. Prodr. IV. 259;

forma inerme

Tin-cha-shan (丁家山), Mai., (no. 1247).

The present plant is unarmed and has the peduncle 3 or 4 times as long as the pedicel. In the type which is of course armed, I notice the peduncle attining 5 times the length of pedicel.

XXXIV. Cornaceæ

141. **Marlea begoniaefolia** Roxb. Fl. Ind. II. 261; DC. Prodr. IV. 267; Benth. Fl. Hongk. 138; Hook. et Arn. Bot. Beech. Voy. 187; Clarke in Hook. f. Fl. Brit. Ind. II. 743; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 344.

Ku-shan (孤山), Mai., (no. 1353); Jun., (no. 1366).

Nom. Jap. *Shima-urinoki.*

The present specimen seems to be of the following variety of Wangerin:

Alangium begoniifolium (Roxb.) Baill.; *subsp.* b. *tomentosum* (Bl.) Wanger. *var.* β. *vulgare* Wanger. in Engl., Pfl.Reich Heft 41. (Alangiac.) 22.

(*to be continued.*)

Observations on the Flora of Japan.

(*Continued from p. 246.*)

By

T. Makino.

Lecturer of Botany in the Science College,
Imperial University of Tokyo.

Fragaria nipponica Makino, sp. nov. in Bot. Mag., Tokyo, XXV. (1911), p. 229, Miscel. (Fig. XX.)

Fragaria elatior Maxim. in litt.; Matsum. Shokubutsu Mei-i (1895), p. 127, p. 1364, et Ind. Pl. Jap. II. 2 (1912), p. 202, non. Ehrh.

Fragaria elatior Maxim. in Bull. Soc. Nat. Mosc. (1879), p. 17 quoad pl. Jap.

Fragaria vesca? Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 129, non Linn.

Fragaria vesca Auct. Jap. non Linn.

Fragaria collina Franch. et Sav. l. c. II. (1879), p. 336, non Ehrh.

Leaflets petiolulate. Pedicel with erect-patent hairs throughout; bracteoles linear to oblong-lanceolate. Flowers hermaphrodite. Petals orbiculate. Carpophore ellipsoid, oblong, or oval, the base naked from carpels. Achenes imbedded in pits on surface of the carpophore.

Perennial, attaining about 25 cm. in height, stoloniferous after anthesis; stolons few, at length very long, filiform, thinly patently pubescent, radicant in nodes, often rubicund; internodes elongate. Rhizome short or elongate, oblique or repent, often curved, with a terminal tuft of leaves, rooting, thickish, ligneous, covered with old bay stipules above. Leaves few to subnumerous, ternate, long-petiolate, thinly pubescent with

adpressed hairs above, piloso-pubescent with adpressed sericeous hairs on veins and midrib beneath, ciliated, coarsely and regularly sharp-serrate with broad-ovate and mucronato-acute teeth, rounded in outline at the apex, entire and broadly cuneate at the base, membranaceous, plicate; veins several to subnumerous on each side, parallel, regularly arranged, straight or subarcuate upwards, each reaching to the apex of serratures; terminal leaflet slightly larger, shortly petiolulate, oval-ovate or oval-obovate to oblong-elliptical, 1–4⅔ cm. long, ¾–2⅘ cm. wide in flower, but attaining 5½ cm. long and 3⅓ cm. wide in fruit; lateral leaflets very shortly petiolutate, erect-patent, somewhat oblique at the base, ovato-oval or obovato-oval to elliptical; petiole about 1½–19 cm. long in flower, slender, pubescent with often patent or sometimes subreflexed hairs, and hairs sometimes erect-patent towards the base; stipule scarious, adnate below, 1–2 cm. long, entire on margin, the free portion subulate to ovato-subulate, cuspidato-acute to subsetaceo-acuminate at the apex, thinly piloso-pubescent on the midrib dorsally and hairs dense at the top, very loosely veined. Flowering stems including the cyme exserted, or sometimes nearly equalling the leaves in height, few, elongate, slender, patently piloso-pubescent; cauline leaf in the base of cyme, ternate to simple, smaller or much so than the radical ones, shortly petiolate, stipulate, sharply serrate and piloso-pubescent as in the radical leaves, sometimes reduced into only subulate stipules, in the compound cyme 2nd. one present and usually stipuliform. Cyme laxly 1–4-flowered, simple or compound. Flowers white, hermaphrodite, long-pedicellate, upward, about 16–18 mm. across; pedicel filiform, pubescent with erect-patent hairs, about 1½–3⅔ cm. long in flower; bracts minute, above or below the middle, often opposite, linear to subulate, erect-patent or subadpressed, pubescent; bracteoles shorter or rarely longer than the calyx-lobes, linear or broad-linear, rarely oblong-linear or oblong-lanceolate, acute or acuminate, rarely bifid or biparted, entire, herbaceous, green, thinly adpressed-pubescent, ciliated. Calyx adpressed-pubescent externally; tube depressed, shorter than lobes, densely pubescent under the gynophore internally; lobes 5, patent,

ovato-subulate, subcaudata-acuminate, entire or sometimes minutely 1–2-serrulate, herbaceous, deep green externally, paler but yellowish-viridescent at base internally, 4–6 mm. long, persistent; midrib slightly prominent and veins loosely reticulated. Petals 5, sometimes 6, orbiculate, about 7–8 mm. long and wide, yellowish at the base, deciduous; veins flabellate below and veinlets densely anastomosing above. Stamens subnumerous, much shorter than petals, unequal in length, erect or erect-patent, glabrous, attaining about 4 mm. long; filament subulate, pale; anther ovato-elliptical, obtuse at apex, shortly bifid at base, yellow. Ovary-cluster about 3 mm. long and across, ovoid-sphærical, yellowish; ovaries many, dense, minute, sessile, ovoid, obtuse, compressed laterally, glabrous, $\frac{2}{3}$ mm. long; style ventral, erect, exserted, arcuate outwards above, terete, glabrous; stigma terminal, truncate. Gynophore erect, oblong-cylindrical, obtuse at top, straight, very shortly naked from ovaries at the base, thinly piloso-pubescent, about $2\frac{1}{2}$ mm. long. Carpophore nutant, with persistet reflexo-patent or adpressed green calyx (concave at base) and persistent filaments at the base, oblong, ellipsoid, or oval, rounded at both ends, 8–15 mm. long, 7–10 mm. across, uneven with deep pits and very thinly hairy on

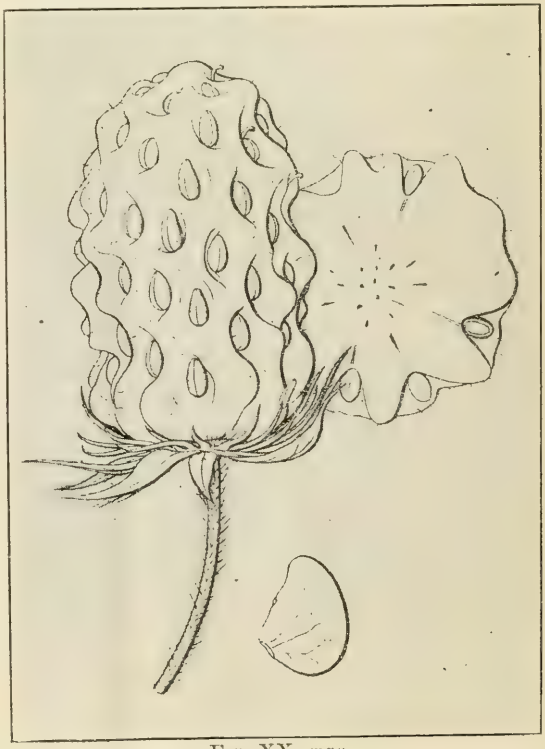


Fig. XX. *mag.*

surface, carpeliferous except only the base, at first pale then red, succulent, delicious. Achenes minute, numerous, dispersed, sitting at the bottom of deep pits of the carpophore, ovoid, oblique in form, obtuse at apex, slightly compressed laterally, sessile, smooth and slightly nervate, glabrous, slightly carinate dorsally, $1\frac{1}{5}$–$1\frac{1}{3}$ mm. long; carpel crustaceous.

Nom. Jap. *Shirobana-no-hebiichigo.*

Hab. Japan, central and northern, alpine mountains.

This is very closely allied to *Fragaria vesca* Linn., but the latter is to be distinguished from our present species by the sessile leaflets, appressed-hairy pedicel, ovate bracteoles, obovate petals, obovoid or globose carpophore, and superficial achenes. The present species also differs from *F. elatior* Ehrh., which has the sub-unisexual flowers. Except the condition of hairiness, this has a resemblance to *F. canadensis* Michx. of North America. *F. vesca* Linn. has hitherto not been found in Japan.

montr. pinnata (Takeda) Makino.

Fragaria vesca monstr. pinnata Takeda in Bot. Mag., Tokyo, XXIV. (1910), p. 314.

Hab. Prov. Shimotsuke: Mt. Nikkô (*Y. Chiba*! May 26, 1907).

Fragaria Hayatai Makino, sp. nov. (Fig. XXI.)

Fragaria vesca var. minor Hayata ex Kawakami, List Pl. Formos. (1910), p. 33, n. 465; Hayata, Mater. Fl. Formos. (1911), p. 97, et Icon. Pl. Formos. I. (1911), p. 236.

Fragaria sp. Hayata, Fl. Mont. Formos (1908), p. 82.

Leaflets petiolulate; terminal tooth especially smaller and shorter. Pedicel with patently villoso-subtomemtose hairs throughout; bracteoles trifid. Flowers hermaphrodite. Petals distant, broadly obovate or obcordate, subunguiculate. Style angustately fusiform, cellular (of one layer) and subhyaline surrounding the centre.

Perennial, stoloniferous after anthesis; stolons few, very long, filiform, patently villoso-pubescent. Rhizome rather short, erect or ascending, ligneous, nigrescent, rooting below,

covered with old bay stipules above, simple or few-ramose, with a terminal tuft of several leaves. Radical leaves dense or rather so, long-petiotate, ternate; leaflets small, broadly subrhombeo-obovate, subemarginate (terminal tooth smaller and shorter) in outline at apex, entire and broadly cuneate at base, regularly sharp-serrate with subfalcately ovato-deltoid erect-patent teeth, adpressed-pilose and plicato-impressed-nervate above, adpressed-villoso-pubescent with sericeous hairs and prominent-nervate beneath (hairs especially denser on veins and midrib), ciliated, thickly membranaceous, very shortly petiolulate; veins several to few on each side, erect-patent, parallel, straight or somewhat arcuate upwards, simple or few-branched; terminal leaflet slightly larger, 7–23 mm. long, 6–21 mm. wide; lateral leaflets very oblique at base being acute on the superior side and rounded on the inferior, erect-patent, 6–19 mm. long, 4–16 mm. wide; petiolules patently or erect-patently or refractedly sericeo-villoso-subtomentose, $\frac{1}{2}$–2 mm. long in the terminal leaflets, but shorter in the lateral leaflets; petiole about $\frac{2}{3}$–6 cm. long in flower, then attaining about 9 cm. long, angustate, patently

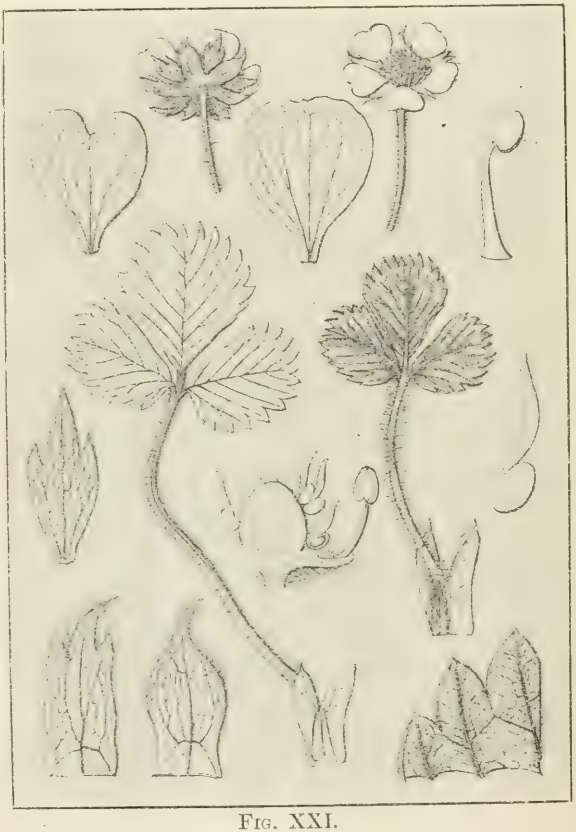


Fig. XXI.

sericeo-villoso-subtomentose and hairs more dense in young ones; stipules about 4–13 mm. long, scarious, entire on margin, adnate below, free portion ovato-elliptical or ovato-deltoid, cuspidate or setaceo- obtuse or acute at apex, adpressed-pilose on the midrib dorsally and ciliated. Flowering stem including the cyme somewhat exserted or not, solitary, angustate, patently villoso-subtomentose with sericeous hairs, foliiferous or aphyllose; cauline leaf at the base of cyme small, with cuneato-obovate leaflets, shortly petiolate, lanceolately stipulate; bract very small, simple, oblong to linear, entire and few-serrate towards the apex, shortly petiolulate, stipulate at the base. Cyme longer or shorter than the stem, one to laxly few flowered. Flower white, about 9–14 mm. in diameter, long-pedicellate, upward; pedicel bractless, $1\frac{1}{3}$–4 cm. long, gracile, patently villoso-subtomentose with sericeous hairs; bracteoles 5, as long as the calyx-lobes, green, densely villoso-subtomentose as well as the calyx dorsally, thinly adpressed-pubescent internally, ciliated, cuneato-ovate, acuminate, 3-fid, rarely oblong or narrowly oblong and entire or bifid, copiously anastomotic-venuled, persistent. Calyx light green; tube depressed, shorter than the lobes, pubescent internally; lobes 5, patent, elliptical or oblong, sometimes oblong-lanceolate, entire, and cuspidate, or 3-fid with sharp-pointed lobules (mid-lobule larger), rarely 2-fid, ciliated, pubescent above dorsally, closely and copiously anastomotic-venuled, about 5 mm. long, $2\frac{1}{2}$ mm. broad. Petals 5, patent, distant each other, a little exceeding the calyx-lobes in length, obovato-orbiculate, retuso-rounded and shortly cuspidate or emarginate at apex, broadly cuneate below and contractedly subunguiculate at base, 4–6 mm. long, $2\frac{2}{3}$–5 mm. wide, delicately nervate; veins 3–5 at base then ramose, reticulated-venuled above. Stamens subnumerous, not exceeding or sometimes scarcely so the ovary-cluster, unequal in length, glabrous, attaining about $2\frac{1}{2}$ mm. long; filament subulate; anther ovato-oval or ovato-orbicular, rounded or retuse at apex, subcordate at base, flat, with a broad connective; anther-cells linear, arcuate. Ovary-cluster globose, sessile, densely carpeliferous, about 4 mm. across; gynophore ovoid-globose, thinly pubes-

Ontei del.

FIG. XXII.

cent. Ovaries very numerous, minute, ellipsoid, obtuse at apex, compressed laterally, glabrous, smooth, $\frac{3}{5}$ mm. long; style much exserted, ventral, erect and straight in the superior ones but ascending and arcuate in the inferior, twice as long as the ovary, angustately fusiform, subhyaline and cellular (one layer) with transverse delicate septa (cell-walls) surrounding the centire; stigma simple, not thick, obtuse. Carpophore small, about 6 mm. across, nutant, globose, sessele, thinly pubescent; dispersedly carpeliferous but naked at the base, succulent, delicious, with adpressed persistent calyx at base. Achenes sessile, ovoid, obtuse at apex, slightly compressed laterally, oblique in form, smooth, glabrous, 1 mm. long, slightly imbeded in shallow pits of carpophore. Flowers in March.

Nom. Jap. *Shima-shirohebiichigo* (Island Fragaria).

Hab. Formosa: Mt. Ganzan (*S. Nagasawa*! Oct. 30, 1905), Mt. Niitaka (*T. Kawakami* and *B. Hayata*! Oct. 19, 1906), Mt. Tozan (*G. Nakahara*! Nov. 1906), Mt. Ekitaizan (*B. Hayata*! Aug. 9. 1908), Mt. Centr. (*Ushinosuke Mori*! March 1910).

A good species, and the only representative of this genus in Formosa. It is quite distinct from *Fragaria vesca* Linn.

Lilium Miquelianum Makino in Iinuma's Sômoku-Dzusetsu, ed. 3, I. (1907), p. 432, et in Bot. Mag., Tokyo, XXIV. (1910), p. 301; Grove, Lil. p. 110. (Fig. XXII.)

Lilium medeoloides Miq. Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Bat. III. (1867), p. 156; Baker in Journ. Linn. Soc. XIV. p. 236 (1874), pro parte; Elwes, Monogr. Lil. (1880), tab. 35 sinistr., non A. Gray.

Nom. Jap. *Chôsen-kasayuri* (Corea Wheel Lily).

Hab. Japan, rarely cultivated.

This lily is not native of Japan. *Lilium medeoloides* A. Gray, Bot. Jap. in Mem. Am. Acad. Art. a. Sc. n. s. VI. (1859), p. 415; Franch. et Sav. Enum. Pl. Jap. II. p. 63, excl. Miq. Prol. 320, is same species with *L. avenaceum* Fisch. bearing the nutant flowers and the Japanese name of *Kuruma-yuri* (Wheel

Lily), from which our species is evidently different as shown by the accompanied figure.

Ephippianthus Schmidtii Reichb. fil. in Flora (1868), p. 33; Fr. Schmidt, Reis. im Amur. u. Ins. Sachal. (1868), p. 221, tab. 5, fig. 1–7; Takeda in Bot. Mag., Tokyo, XXIV. (1910), p. 133.

Liparis Schmidtii Benth. in Journ. Linn. Soc. XVII. p. 294.

Ephippianthus sachalinensis Reichb. fil. ex Fr. Schmidt, l. c. p. 180; Franch. et Sav. Enum. Pl. Jap. II. p. 510.

Nom. Jap. *Ko-ichiyôran.*

Hab. Prov. Tosa in Shikoku: Mt. Shiraga in Nagaoka-gôri (*Torama Yoshinaga*! Aug. 30, 1907).

Above-quoted locality may be the southern limit of this species.

Clematis ovatifolia Ito ex Maxim. in Mél. Biol. XII. p. 415; Makino in Bot. Mag., Tokyo, XXIV. (1910), p. 245.

Stem terete, substriate, glabrous, green. Leaves opposite, green and shining above, paler beneath, those of basal sterile ones angustate and albo-variegate along the midrib or along, the midrib and veins; rachis terete, green; petiolules terete green, narrowly grooved in front above; nodes of petiolules slightly prominent; petiole dilated at base, flatly subgrooved in front, green.

Hab. Prov. Kii (*N. Ui*! Nov. 1910).

(*To be continued.*)

Observations on the Flora of Japan.

(*Continued from p. 290.*)

By

T. Makino.

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Imperial University of Tokyo.

Senecio (Cineraria) **Kawakamii** Makino, sp. nov.

Senecio sp. Kawakami in Bot. Mag., Tokyo, XIV. (1900), p. 139.

Perennial, attaining about 3 decim. in height, flaccid. Rhizome short, erect or ascending, rooting, dark-brown, with old dark-brown petioles at neck; roots fibrous, filiform. Leaves membranaceous, thinly pubescent and slightly adpressedly incano-lanuginous above, thinly adpressedly incano-lanuginous beneath, laxly veined; radical leaves tufted, spreading or erect-patent, long-petiolate, ovate, ovato-oblong, oblong, or elliptical, obtuse or acute at apex, usually obtuse or sometimes acute and often decurrent to the petiole at base, irregularly dentate with deltoid or depressed-deltoid mucronate coarse patent teeth, about 4–11 cm. long, $2\frac{1}{2}$–$5\frac{1}{2}$ cm. broad; petiole often longer than the blade, winged above or wholly, attaining about 9 cm. long, incano-tomentose at the base; cauline leaves few to several, loosely placed, sessile and amplexicaul but winged-petiolate in the basal ones, oblong-lanceolate, mucronately dentate or denticulate, the superior ones smaller and rounded or subauriculate at base. Stem erect, simple, rather stout, striate when dry, thinly adpressedly incano-lanate and thinly pubescent with glandular crisped hairs. Inflorescence corymboso-subumbellate with several to many heads, subcompound; rachis short; bracts leafy and amplexicaul below, but small-sized above, angustate, shorter than peduncles, thinly incano-lanate, laxly glanduloso-ciliated; bracteoles small, linear, laxly glandu-

loso-ciliated; peduncles thinly incano-lanate and glanduloso-pubescent, shorter or longer than heads. Heads mediumized, dense, yellow, about 3 cm. across. Involucre broadly campanulate, obtuse at base, incano-tomentose towards the base, 6–8 mm. long; outer involucral bracts 0; scales many, uniserial, linear-lanceolate, linear, or lanceolate, attennated above, acute or obtuse or 2–3–fid and ciliatad at apex, glandular-ciliated on margin, herbaceous, membranaceous on margin, thick and obtusely carinate and thinly glandular-pubescent dorsally below, anastomotic-veined. Receptacle somewhat convex, glabrous, sub-pitted. Rey-flowers female, several, patent. Corolla glabrous; ligule oblong-linear, minutely 3-fid with obtuse lobes, cuneato-obtuse at base, 4-nerved, entire, 9–15 mm. long, $2\frac{1}{2}$–$3\frac{1}{2}$ mm. wide; tube angustately terete, much shorter than the ligule, 2–3 mm. long. Disk-flowers many, yellow, hermaphrodite, longer than involucral scales. Corolla glabrous; limb campanulate, 5-lobed, 10-nerved, $2\frac{1}{2}$–3 mm. long; lobes ovato-deltoid, acutish; tube angustately terete, nearly equal to or longer than the limb. Stamens slightly exserted; anthers obtuse at base; connective-tip ovate and subobtuse; filament filiform, glabrous. Pappus shorter than the corolla-tube, subplumoso-spinulose, sordid-white. Style filiform, erect, glabrous except arms: that of disk-flowers exserted; arms linear, thicker, laxly with long hairs dorsally, tips thickish, truncate, shortly penicillate; that of ray-flowers slightly exserted, more gracile than that of disk-flowers; arms more angustate, with an obtuse tip. Ovary narrow, broadly linear, slightly compressed, glabrous, longitudinally many-costate, about 2–$2\frac{2}{3}$ mm. long. Achene cylindrical or cylindrico-subfusiform, glabrous, many-costate, $3\frac{1}{2}$–4 mm. long. Seed cylindrical, scarcely enlarged above, smooth, about 3 mm. long; cotyledons oblong-linear, obtuse; hypocolyl shorter than cotyledons.

Nom. Jap. *Miyama-oguruma* (T. Kawakami).

Hab. Prov. Kitami in Hokkaidô: Mt. Riishiri in Isl. Riishiri (*T. Kawakami* 1899; *T. Makino*! Aug. 1903).

This species has an affinity to *Senecio campestris* Linn.

Buxus sempervirens Linn. Sp. Pl. p. 983.

var. riparia Makino, var. nov.

Shrub, attaining about 1 m. in height, densely ramose and densely leafy. Extreme branchlets tetragonous, often stout. Leaves oblanceolate to obovate, cuneate below, usually emarginate or sometimes rounded at apex, entire, very shortly petiolate, thickly coriaceous, glabrous, shining and finely veined above, paler and invisible in veins beneath, angustately revolute on margin when dried, 15–27 mm. long, 5–11 mm. broad. Rudimentary ovary in the male flower 2 mm. long, erect, straight, fungiform, the stipe 4–sulcate, the top truncato-capitate and 1 mm. across, 2–parted, the partitions again 2–lobate.

Nom. Jap. *Ko-tsuge* (nov.).

Hab. Prov. Tosa: Kawaguchi in Nagaoka-gôri, spontaneous (*T. Makino*! May 1893).

Intermediate one between *Var. japonica* (Muell. Arg.) Makino and *var. microphylla* (Sieb. et Zucc.) Bl. It grows by side of River Yoshino.

Cobresia Bellardii (All.) Degland.; Kükenthal, Caricoid. in Engler's Pfl.-Reich. (1909), p. 37, fig. 8 A–B.

Carex Bellardi All. Fl. Pedem. II. (1785), p. 264, tab. 92, fig. 2.

Cobresia scirpina Willd. Sp. Pl. IV. (1805), p. 205.

Nom. Jap. *Higehari-suge* (T. Makino).

Hab. Prov. Shinano: Mt. Yatsugatake (*S. Takashima*! Aug. 1, 1907; *T. Makino*! Aug. 1908).

Very rare. This is found on alpine mountain in Japan, and new to the Flora of this country.

Carex hebecarpa C.A. Mey. **var. Maubertiana** (Boott) Franch. in Nouv. Archiv. Mus. Paris, 3 sér. X. (1898), p. 70; Kükenthal, Caricoid. in Engler's Pfl.-Reich. (1909), p. 745.

Carex Maubertiana Boott, Ill. Carex, I. (1858), p. 45, tab. 114.

forma latifolia Makino, nov.

Leaves crowded towards the top of culm, spreading, shorter, linear-lanceolate, 7–12 mm. broad. Spiculæ densely congested at the top of culm.

Nom. Jap. *Tendziku-yoshi* (Hortic.), *Tendziku-suge* (nov.).

Hab. Prov. Mikawa: Kaifuku, cult. (*G. Nagura*! July 15, 1897); Prov. Ômi: Ôtsu, cult. (*K. Tsuji*! Aug. 1900); Prov. Ise: Yokkaichi, cult. (*T. Makino*! Sept. 1905).

This variety is new to the Flora of Japan.

Pennisetum purpurascens (Thunb.) Makino, nom. nov. non H. B. et K.

Cenchrus purpurascens Thunb. in Trans. Linn. Soc. II. (1793), p. 329; Willd. Sp. Pl. I. p. 318; Pers. Syn. Pl. I. p. 71; Rœm. et Schult. Syst. Veg. II. p. 256.

Panicum hordeiforme γ. Thunb. Fl. Jap. p. 48, tab. 8.

Pennisetum hordeiforme Steud. Syn. Gram. p. 102.

Pennisetum japonicum Trin. Icon. II. tab. 19; Spreng. Syst. Veg. I. p. 303; Steud. l. c. p. 102; Hackel in Bull. Herb. Boiss. VII. p. 645.

Gymnothrix japonica Kunth. Enum. Pl. I. p. 158; Miq. Prol. Fl. Jap. p. 164; Franch. et Sav. Enum. Pl. Jap. II. p. 164.

Setaria atroseta Steud. ex Steud. l. c. p. 102.

Nom. Jap. *Chikara-shiba.*

Hab. Japan, common.

β. **viridescens** (Miq.) Makino.

Gymnothrix japonica β. *viridescens* Miq. Prol. Fl. Jap. p. 164; Franch. et Sav. Enum. Pl. Jap. II. p. 165.

Pennisetum japonicum var. viridescens Matsum. Catal. Pl. Herb. Coll. Sc. Imp. Univ. Tokyo, (1886), p. 226, et Shokub. Mei-i (1895), p. 207.

Nom. Jap. *Ao-chikarashiba.*

Hab. Japan, uncommon.

(*To be continued.*)

Index specierum varietatum formarumque *Labiatarum* japonicarum

Auct.

J. Matsumura

et

Y. Kudô.

Ajuga Linn.

Sectio Bugula Benth.

Series 1. Lobatæ Maxim.

A. japonica Miq.

A. incisa Maxim.

Series 2. Genevensis Maxim.

A. boninsimæ Maxim.

A. glabrescens Makino.

A. yezoensis Maxim.

var. *tsukubana* Nakai.

A. Makinoi Nakai.

A. ciliata Bunge.

A. bracteosa Wall.

Series 3. Geniculatæ Maxim.

A. decumbens Thub.

A. typica Matsum. et Kudô. nom. nov.

Teucrium Linn.

Sectio 1. Scorodonia Benth.

T. veronicoides Maxim.

Sectio 2. Stachyobotrys Benth.

T. japonicum Will.

T. stoloniferum Roxb.

var. *typicum* Maxim.

var. *Miquelianum* MAXIM.

Rosmarinus LINN.

R. officinalis LINN.

Scutellaria LINN.

Sectio Euscutellaria BRIQ.

Series Vulgares BENTH.

Subseries 1. Cuneatæ BRIQ.

S. luzonica ROLF.

S. indica LINN.

form. *parvifolia* MATSUM. et KUDÔ. nom. nov.

S. japonica MORR. et DECAISNE.

var. *ussuriensis* REGEL.

form. *alpina* NAKAI.

form. *humilis* MATSUM. et KUDÔ. nom. nov.

Subseries 2. Angustifolia BRIQ.

S. baicalensis GEORGI.

Subseries 3. Galericulatæ BOISS.

S. dependens MAXIM.

S. hederacea KUNTH. et BOUCHÉ.

S. rivularis WALL.

S. scordifolia FISCH.

var. *nipponica* MATSUM. et KUDÔ. nom. nov.

var. *puberula* KOM.

var. *pubescens* MIQ.

var. *hirta* SCHMIDT.

var. *sachalinensis* MATSUM. et KUDÔ. var. nov.

Marrubium LINN.

Sectio Marrubium BENTH.

Series Decemdentata BRIQ.

M. vulgare LINN.

Agastache CLAYT.

Series Oxyodonta BRIQ.

A. rugosus O. KTZE.

Meehania BRITTON.

M. urticæfolia MAKINO.

form. *pedunculata* MATSUM. et KUDÔ. nom. nov.

Nepeta LINN.

Sectio Eunepeta Boiss.
Series 1. Catariæ Boiss.
N. Cataria Linn.
Series 2. Macro-nepetæ Boiss.
N. subsessilis Maxim.
var. *yezoensis* Franch. et Savat.
Series 3. Schizonepetæ Matsum. et Kudô. nom. nov.
N. tenuifolia Benth.

Glecoma Linn.

G. hederacea Linn.

Dracocephalum Linn.

Subgenus I. Eudracocephalum Briq.
Sectio 1. Prunelliformia Matsum. et Kudô. Sect. nov.
D. prunelliforme Maxim.
Subgenus. II. Ruyschiana Benth.
Series 2. Euruyschiana Briq.
D. arguense Fisch.

Brunella Linn.

B. vulgaris Linn.
var. *vulgaris* Benth.
var. *elongata* Benth.

Chelonopsis Miq.

C. moschatus Miq.
var. *longipes* Makino.

Leucas R. Br.

Sectio Ortholeucas Benth.
L. lanata Benth.
L. javanica Benth.
L. mollissima Wall.

Loxocalyx Hemsl.

L. ambiguus Makino.

Galeopsis Linn.

Subgenus Tetrahit Reichb.
G. Tetrahit Linn.
subsp. *bifida* Fries.
var. *bifida* Leyt. et Cour.

Lamium Linn.

Sectio 1. Tubulosa Matsum. et Kudô. Sectio nov.
L. formosanum Hayata.
Sectio 2. Pollichia Bunge.
Series 1. Amplexicaule Briq.
L. amplexicaule Linn.
Series 2. Purpurea Briq.
L. purpureum Linn.
Series 3. Lamiotypus Dumort.
L. album Linn.
var. *petiolatum* Nakai.

Leonurus Linn.

Sectio 1. Macranthus Matsum. et Kudô. Sect. nov.
L. macranthus Maxim.
Sectio 2. Panzeria Benth.
L. sibiricus Linn.

Stachys Linn.

Subgenus 1. Ajugoides Matsum. et Kudô. Subgenus nov.
S. humilis Matsum. et Kudô. nom. nov.
Subgenus 2. Stachyotypus Matsum. et Kudô. Subgenus nov.
Sectio Eustachys Briq.
Series Genninæ Briq.
S. baicalensis Fisch.
var. *japonica* Kom.
var. *glabra* Matsum. et Kudô. var. nov.
S. Sieboldi Miq.

Anisomeles R. Br.

A. indica O. Ktz.

Salvia Linn.

Subgenus 1. Salvia Benth.
Sectio 1. Drymosphace Benth.
S. nipponica Miq.
form. *argutidens* Makino.
var. *glabrescens* Franch. et Savat.
S. trisecta Matsum. sp. nov.
Subgenus 2. Leonia Benth.
Sectio 2. Natiosphace Bunge.
S. plectranthoides Griff.

S. japonica THUB.
form. *pinnata* MATSUM. et KUDÔ. nom. nov.
form. *ternata* MATSUM. et KUDÔ. nom. nov.
S. chinensis BENTH.
form. *Fortunea* MATSUM. et KUDÔ. nom. nov.
form. *pinnata* MATSUM. et KUDÔ. nom. nov.
form. *bipinnata* MAKINO.
form. *alato-pinnata* MATSUM. et KUDÔ. nov.
S. brachiata ROXB.
S. scapiformis HANCE.
var. *pinnata* HAYATA.
form. *hirsuta* HAYATA.
form. *gracilis* HAYATA.
Subgenus 3. Viasala BRIQ.
Sectio 3. Eremosphace BUNGE.
S. Ranzaniana MAKINO.
Subgenus 4. Covola BRIQ.
S. pygmæa MATSUM.
Monarda BENTH.
Sectio Eumonarda BENTH.
M. fistulosa LINN.
Melissa LINN.
M. parviflora BENTH.
Saturea LINN.
Sectio 1. Sabbatia BRIQ.
S. japonica MATSUM. et KUDÔ. nom. nov.
Sectio 2. Clinopodium BRIQ.
S. gracilis BRIQ.
S. umbrosa SCHEELE.
S. chinensis BRIQ.
var. *macrantha* MATSUM. et KUDÔ. nom nov.
S. laxiflora HAYATA.
Hyssopus LINN.
H. officinalis LINN.
Majorana MÖNCH.
M. hortensis MÖNCH.
Origanum LINN.

O. vulgare Linn.

Thymus Linn.

Sectio Serpyllum Benth.

Series 1. Serpylla Briq.

T. Serpyllum Linn.

Series 2. Vulgares Briq.

T. vulgaris Linn.

Lycopus Linn.

L. virginicus Linn.

var. *parviflorus* Makino.

L. Maackianus Kom.

L. lucidus Turcz.

var. *genuinus* Regel.

var. *hirtus* Regel.

L. japonicus Matsum. et Kudô. nom. nov.

var. *ramosissimus* Matsum. et Kudô. nom. nov.

Mentha Linn.

Subgenus Menthastrum Coss. et Gern.

Sectio Verticillatæ Linn.

Series 1. Arvenses Linn.

M. arvensis Linn.

subsp. *haplocalyx* Briq.

var. *sachalinensis* Brir.

var. *nipponensis* Matsum. et Kudô. var. nov.

Series 2. Silvestres Malinv.

M. viridis Linn.

Perillura Maxim.

P. reptans Maxim.

Perilla Linn.

P. ocymoides Linn.

var. *crispa* Benth.

form. *purpurea* Makino.

form. *discolor* Makino.

form. *viridis* Makino.

Mosla Hamilt.

Sectio 1. Eumosla Matsum. et Kudô. Sect. nov.

Series 1. Exannulatæ Matsum. et Kudô. nov.

M. japonica MAXIM.
var. *angustifolia* MAKINO.
M. formosana MAXIM.
M. grosseserrata MAXIM.
Series 2. Annulatæ MATSUM. et KUDÔ. nov.
M. punctata MAXIM.
Sectio 2. *Pseudomosla* MATSUM. et KUDÔ. nov.
M. Tashiroi MATSUM.

Elsholtzia WILLD.

E. Patrini GARKE.

Comanthosphace S. M. MOORE.

C. stellipila S. MOORE.
var. *japonica* MATSUM. et KUDÔ. nov.
form. *sublanceolata* MATSUM. et KUDÔ.
form. *barbinervis* MATSUM. et KUDÔ.

Keiskea MIQ.

K. japonica MIQ.
var. *lancifolia* NAKAI.

Pogostemon DESF.

P. formosanum OLIV.

Dysophylla BLUME.

Sectio Rhabdocalicinæ BRIQ.
Series 1. Oppositifoliæ BENTH.
D. auricularia BLUME.
Series 2. Verticillata BENTH.
D. verticillata BENTH.
D. Yatabeana MAKINO.

Hyptis JACQ.

Sectio 1. Mesophaeria BENTH.
H. suaveolens POIT.
Sectio 2. Cephalohyptis BRIQ.
Series 1. Genuinæ BENTH.
A. Capitatæ BRIQ.
H. capitata JACQ.
B. Brevipedes BRIQ.
H. brevipes POIT.
Sectio 3. Spicaria BENTH.

H. spicigera LINN.

Plectranthus L'HER.

Subgenus Isodon BENTH.

Sectio 1. Aulanthus BRIQ.

P. longitubus MIQ.

var. *contracta* MAXIM.

var. *intermedia* MATSUM. et KUDÔ. var. nov.

var. *effusa* MAXIM.

Sectio 2. Euisodon BRIQ.

Series Geradiani BRIQ.

P. excisus MAXIM.

var. *typicus* MATSUM. et KUDÔ. var. nov.

var. *hakusanensis* MATSUM. et KUDÔ. var nov.

var. *shikokiana* MAKINO.

Sectio 3. Amethystoides BENTH.

P. tricocarpus MAXIM.

P. lasiocarpus HAYATA.

P. serra MAXIM.

P. glaucocalyx MAXIM.

var. *typicus* MAXIM.

var. *japonicus* MAXIM.

P. inflexus VAHL.

var. *umbrosus* MAXIM.

var. *macrophyllus* MAXIM.

var. *transticus* MATSUM. et KUDÔ.

Coleus LOUR.

Sectio Solenostemoides VATKE.

Series Vulgares BENTH.

A. scutellarioides BRIQ.

C. Blumei BENTH.

C. mucosus HAYATA.

B. Latifolii BRIQ.

C. formosana HAYATA.

Mesona BLUME.

M. procumbens HEMSL.

M. elegans HAYATA.

Acrocephalus BENTH.

Sectio Acrocephalus Briq.
Series Helerochili Briq.
A. indicus Briq.

Ocimum Linn.

Sectio 1. Ocimodon Benth.
Series Basilia Briq.
O. Basilicum Linn.
Sectio 2. Hierocimum Benth.
subseries Foliosa Briq.
O. sanctum Linn.

Ueber die Kultur der *Schistostega osmundacea* Schimp.

Von

M. Miyoshi.

Seit den klassischen Untersuchungen von Noll[1] über die Lichtreflektion der *Schistostega osmundacea* Schimp. hat das Leuchtmoos ein reges Interesse unter Botanikern und Naturfreunden erweckt. In neuerer Zeit hat Senn[2] seine eigenen Versuche über die Chloroplastenwanderung des Leuchtmooses mitgeteilt.

Als natürlicher Standort des Leuchtmooses sind nur einige beschränkte Oertlichkeiten in Europa und Nordamerika angegeben; dagegen ist sein Vorkommen in Japan bisher nicht bekannt.

Im Frühjahr 1910 übersandte mir Herr K. Koyama, Lehrer an der Mittelschule in Nozawa, Provinz Shinano, ein Leuchtmoos, welches seiner brieflichen Mitteilung nach ein schimmerndes Licht in einer Grotte bei Nozawa erzeugen soll.

Das geschickte Exemplar erwies sich nach der Untersuchung als *Schistostega osmundacea* Schimp., und damit ist die erste Fundstelle des Leuchtmooses in diesem Lande bekannt geworden[3]

Mit der Absicht, das genannte Moos künstlich zu kultivieren und dann in pflanzenphysiologischen Versuchen zu verwenden, bat ich Herrn Koyama, mir die Erde, auf welcher das Moos

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1) Noll: Ueber das Leuchten der Schistostega osmundacea Schimp. (Arbeiten des Botanischen Instituts in Würzburg. Band III, Heft 4. 1888.)

2) Senn: Die Gestalt- und Lageveränderung der Pflanzen-Chromatophoren. 1908.

3) Vergl. Miyoshi: Vorlesungen über Botanik (japanisch!) 4. Aufl. Bd. I. p. 614.

wächst, zuzusenden. Mit der kleinen Menge humusartiger Erde, die ich bald darauf erhielt, stellte ich folgende Kulturversuche an :—

a. Zerstreuen der Mooserde auf ein sterilisiertes Ziegelstückchen.

b. Ueberlegen der Mooserde auf humusreiche Gartenerde.

Die beiden Kulturen, a und b, befanden sich je in einer PETRI'schen Schale, welche wiederum mit einer grossen Glasglocke bedeckt und in den Schatten gestellt wurde.

Nach drei Wochen wurde die Kulturoberfläche in a und b von einer zarten Vorkeimschicht überzogen, die in vollem Tageslicht nur leicht grün aussah. Wenn man aber die Kultur ins dunkle Zimmer brachte und das Licht von aussen darauf fallen liess, so konnte man ein schwaches aber deutliches smaragdgrünes Licht beobachten, welches aus den mikroskopischen Vorkeimzellen ausstrahlte.

Nach einem Monate sprangen aus der Kultur eine Anzahl junger Stämme mit winzigen zweireihigen Blättern. Die vollkommen ausgebildeten Pflanzen waren kaum grösser als 1 cm.

Unter den obenerwähnten zwei Kulturen erwies sich b besser als a; wahrscheinlich war die glatte Oberfläche des Ziegelstückes für das Anwachsen nachteilig gewesen.

Unser Moos wuchs in mässig feuchter Erde gut, in durchtränktem Boden aber schlecht. Durch Trockenlegen der Kultur starben die Moospflanzen samt dem Vorkeime ab. Nach Begiessen der Erde trat wiederum eine frische Vorkeimschicht zu Tage. Dies zeigt, dass entweder eine Menge keimfähiger Sporen in der Kulturerde vorhanden waren, oder ein Teil des Protonemas noch überlebte. Jedenfalls ist die Zähigkeit des Lebens unseres Mooses auffallend.

In einer anderen Kulturreihe beschickte ich die Kultur statt mit Wasser mit KNOP'scher Lösung (1 pro Mille), ohne jedoch einen nennenswerten Unterschied gegen die Kontrolle zu erhalten. Es bedarf freilich noch besonderer Versuche um etwas bestimmtes inbezug auf die Ernährungsphysiologie des Leuchtmooses sagen zu können.

Die oben beschriebenen Versuche zeigen nun, dass unser

sonst so seltenes Leuchtmoos sich leicht und fortwährend im Laboratorium kultivieren und jederzeit zu pflanzenphysiologischen Versuchen anwenden lässt. Es ist ein vorzügliches Objekt für Demonstration der Beweglichkeit des Chlorophyllapparates infolge der wechselnden Lichtrichtung.

In allerletzter Zeit ist das Problem der Erhaltung der Naturdenkmäler in Japan lebhaft diskutiert worden und Vorsichtsmassregeln gegen die Beschädigung oder Vernichtung wissenschaftlicher und in anderer Hinsicht wichtiger Naturobjekte werden mehr und mehr getroffen. Von diesem Gesichtspunkte aus wünschen wir, dass der erste Fundort des Leuchtmooses in Japan sicher erhalten bleibt.[1)]

1) Dies ist schon der Fall in Deutschland. Das Städtchen „Wunsiedel im Fichtelgebirge schützt eine Fundstelle des Leuchtmooses, *Shistostega osmundacea*." (Conwentz: Die Gefährdung der Naturdenkmäler und Vorschläge zu ihrer Erhaltung. 1905. p. 112.)

A List of Plants collected in Hang-chou, Cheh-kiang, by K. Honda.

(*Continued from p. 236.*)

by

S. Matsuda.

XXXV. **Caprifoliaceæ.**

142. **Lonicera japonica** Thunb. Fl. Jap. 89; Miq. in Ann. Mus. Bot. Lugd.-Bat. II. 269; Maxim. Mél. Biol. X. 56; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 364; Diels in Engl. Bot. Jahrb. XXIX. 594; Rehder in 14th Ann. Rep. Missor. Bot. Gard. 159.

Ku-shan (孤山), Oct., (no. 25); Ken-shan-mun (艮山門), Oct., (nos. 662, 663, 666); Yu-ching-mun (湧金門), Nov., (no. 657).

Nom. Jap. *Suikatsura* (忍冬).

forma macrantha n. f.

Twining shrub, branches hispido pubescent with intermixed glandular hairs, glabrous when old; leaves opposite, petiole 10 mm. long, hispid, lamina (7–8 × 3.5–4 cm.) obovate or oblong, cuspido-acuminate, round at base, dark green above (in dried specim.), pale beneath, often pubescent on the veins; peduncles axillary, hispid, 2–4 cm. long, flowers paired, bracts (1.5–2.5 × .8–1.2 cm.) foliaceous; bracteoles distinct, suborbicular, hispid; calyx-tube glabrous, 5–toothed, teeth short, ciliate; corolla 4 cm. long, bi-labiate, upper-lip 4–lobed, lobes oblong, obtuse, the lower linear oblong, obtuse 2 cm. long, the tube 2 cm. long, equal at the base, hispid on the outside (glandular

hairs internixed); stamens 5, not exceeding the corolla-lobes, style filiform, stigma capitate, dark in color.

Rehder in his monography distinguishes 3 var. of the species, but my plant seems to differ from any of them. *Var. chinensis* is somewhat allied, but it differs from mine by having corolla carmine outside, etc.

Chi-ling (葛嶺), Mai., (no. 1278–1281).

143. **Sambucus javanica** Bl., DC. Prodr. IV. 322; Clarke in Hook. f. Fl. Brit. Ind. III. 2; Forb. et Hemsl. l. c. XXIII. 348; Diels l.c. 584;=*S. chinensis* Lindl.

Ku-shan (孤山), Sept., (no. 573?), Tai-pin-mun (太平門), Sept., (no. 645); Oct., (no. 492).

Nom. Jap. *Sokuzu* (蒴藋).

No. 492 is not very good specimen; determination unsatisfactory.

144. **S. racemosa** L.; DC. Prodr. IV. 323; Miq. in Ann. Mus. Bot. Lugd. Bat. II. 265; Forb. et Hemsl. l. c. 348; Diels l.c. 584.

Ching-tai-mun (清泰門), Oct., (no. 53).

Nom. Jap. *Niwatoko* (接骨木).

145. ? **Viburnum macrocephalum** Fort.; Walp. Ann. I. 365; Max. in Mél. Biol. X. 652; Forb. et Hemsl. l.c. 353; Diels l.c. 587.

Ghi-tsen (玉泉), Mai., (nos. 1186, 1234); Ya-feng (岳墳), Mai., (no. 1315); Mo-cha-bu (茅家埠), Apr., (nos. 1102, 1098); Sha-shan-pu (赤山埠), Apr., (no. 1042–1044).

The identification of this sp. unsatisfactory. The specimens (nos. 1186, 1234) have neutral fl. on the margin of the cyme, and calyx-tube (adhering to the ovary) is covered with stellate hairs. These two very doubtful.

XXXVI. **Rubiaceæ.**

146. **Damnacanthus indicus** Graetn., DC. Prodr. IV. 437; Hook. f. Fl. Brit. Ind. III. 158; Max. in Mél. Biol. XI. 795; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 386; Diels in Engl. Bot. Jahrb. XXIX. 582.

Po-kau-fung (北高峰), Mai., (no. 1185).

Nom. Jap. *Aridōshi* (虎刺).

147. **Galium gracile** Bge.; Walp. Rep. II. 456; Max. in Mél. Biol. IX. 261; Forb. et Hemsl. l.c. 394; Diels l.c. 583.

Ghi-tsen (玉泉), Mai., (no. 1237).

Nom. Jap. *Yotsuba-mugura.*

148. **G. gracilens** (A. Gray) Makino in Bot. Mag. Tokyo, XVII. 74;=*G. trachyspermum* A. Gr. Bot. Jap. (1859) 393.

Chi-ling (葛嶺), Mai., (no. 1169); Ya-feng (岳墳), Oct. (no. 733).

Nom. Jap. *Kobano-yotsuba-mugura.*

149. **Pæderia tomentosa** Bl.; DC. Prodr. IV. 471; Hook. f. Fl. Brit. Ind. III. 197; Max. in Mél. Biol. XI. 798. Forb. et Hemsl. l.c. 389; Diels l.c. 582;=*P. fœtida* Thunb. Fl. Jap. 106; Benth. Fl. Hongk. 162. (non Linn.)

Po-su-tang (寶叔塔), Oct., (no. 128); Ken-shan-mun (艮山門), Oct., (nos. 625, 665); Ching-tai-mun (清泰門), Oct., (no. 66); Tai-pin-mun (太平門), Aug., (no. 578).

Nom. Jap. *Hekuso-kadzura.*

This species is very variable. Some specimens have lanceolate leaves and tubular corolla, while others have broadly ovate, cordate leaves, and sub-campanulate corolla.

150. **Rubia cordifolia** L.; DC. Prodr. IV. 588; Hook. f. Fl. Brit. Ind. III. 202; Forb. et Hemsl. l.c. 393.

Tai-pin-mun (太平門), Oct., (nos. 82, 424, 795); —— Sept., (no. 1129).

Nom. Jap. *Akane* (茜草).

151. **Serissa Democritea** Baill.; Forb. et Hemsl. l.c. 391; Diels l.c. 582;=*Democritea serissoides* DC. Prodr. IV. 540.

Ku-shan (孤山), Nov., (nos. 408, 409).

XXXVI. **Valerianaceæ.**

152. **Patrinia villosa** Juss.; DC. Prodr. IV. 624; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 398; Diels in Engl. Bot. Jahrb. XXIX. 597.

Tai-pin-mun (太平門), Oct., (nos. 693, 694, 835); Nov., (no.

115); Ken-shan-mun (艮山門), Sept., (no. 433).

Nom. Jap. *Otokoeshi.*

XXXVII. **Compositæ.**

153. **Artemisia annua** L.; DC. Prodr. VI. 119; Benth. Fl. Hong. 187; Max. in Mél. Biol. VIII. 528; Hook. f. Fl. Brit. Ind. III. 322; Forb. et Hemsl. in Journ. Linn. Soc. XXIII. 441; Diels in Engl. Bot. Jahrb. XXIX. 617.

Ken-shan-mun (艮山門), Aug., (no. 512); Kong-Yuan (貢院), Oct., (no. 554); Sept., (no. 587).

Nom. Jap. *Kuso-ninjin.*

154. **A. japonica** Thunb. Fl. Jap. 310; DC. Prodr. VI. 100; Benth. l.c. 186; Fr. Pl. David. 168; Max. l.c. 526; F. et H. l.c. 443; Diels l.c. 617.

Tsen-tang-mun (錢塘門), Sept., (no. 37).

Nom. Jap. *Otoko-yomogi.*

155. **A. septemlobata** Lévl. et Vant. in Repert. nov. Sp. et Gen. VII. 22; et Bull. Soc. Bot. 1910, p. 457.

Ken-shan-mun (艮山門), Oct., (no. 390).

The species here named is reported from Kouy-Tchéou, but not from other districts. The present specimen and others I saw were received from Che-Kiang.

156. **A. vulgaris** L.; DC. Prodr. VI. 112; Ledeb. Fl. Ross. II. 585; Benth. l.c. 187; Max. l.c. 535; Hook. f. Fl. Brit. Ind. III. 325; Forb. et Hemsl. l.c. 446; Diels l.c. 618.

Ken-shan-mun (艮山門), Oct., (no. 534); Nov., (no. 178); Sept. (no. 315) Kong-yuan (貢院), Oct., (no. 594); Aug., (no. 556) Ya-feng (岳墳), Oct., (no. 477); Ching-tai-mun (清泰門), Nov., (no. 175); Tai-pin-mun (太平門), Oct., (nos. 43, 448).

Nom. Jap. *Yomogi* (艾).

157. **Aster baccharoides** Steetz; Benth. l. c. 175; Forb. et Hemsl. l. c. 409; Diels l. c. 610; =*Diplopappus baccharoides* Benth.; Walp. Rep. II. 578.

Ya-feng (岳墳), Sept., (no. 34); Nov., (no. 307) Ken-shan-mun (艮山門), Sept., (no. 464); Oct., (nos. 8, 89, 92); Po-sun-tang (寶叔塔), Oct., (no. 196, 340, 341, 396); Chi-ling (葛嶺), Oct., (no. 310); Tsen-tang-mun (錢塘門), Nov., (no. 316).

Hemsley remarks of this species: "Some of the forms of this and of *A. trinervius* approach each other very closely"; and Diels also remarks: "Von folgender [A. trinervius] oft schwer zu trenner." In the specimens of *A. trinervius* collected here in Japan, we almost always notice that the tip of involuclar scales is dark coloned, but this is not the case with *A. baccharoides*. Some form of *A. baccharoides* has many rows of involuclar scales, the outermost or lowest of which tend to be transformed into bractlets. Bentham describes the pappus of this species as dirty white, but in some specimens we notice somewhat reddish pappus.

158. **A.** (Boltonia) **indicus** L.; Fr. et Sav. Enum. Pl. Jap. II. 398; Forb. et Hemsl. l.c. 413; Diels l.c. 609;=*Boltonia indica* Benth. Fl. Hongk. 174; Hook. f. Fl. Brit. Ind. III. 249.

Ken-shan-mun (艮山門), Sept., (no. 467); Oct., (nos. 77, 97, 109, 201, 638, 681).

Nom. Jap. *Yomena* (雞兒腸).

159. **A.** (Boltonia) **procerus** Hemsl. in Journ. Linn. Soc. XXIII. 415; Diels l.c. 609.

Ku-shan (孤山), Sept., (nos. 146, 371, 423).

The specimen consists of the upper portion of the stem, and perfectly developed leaves are wanting. Determination unsatisfactory. I noticed: achenia (mature), 4-costate, somewhat compressed, attenuated towards the base, subpuberous; pappus setose, short, unequal.

160. **A. turbinatus** S. Moore in Journ. Bot. (1878) 132; Forb. et Hemsl. l.c. 417.

Po-su-tang (寶叔塔), Nov., (no. 306); Oct., (no. 398); Ya-feng (岳墳), Nov., (no. 454); Ku-shan (孤山), Nov., (no. 452).

161. **Bidens tripartita** L.; DC. Prodr. 594; Max. Prim. Fl. Amur. 152; Hook. f. Fl. Brit. Ind. III. 309; Forb. et Hemsl. l.c. 436; Diels l.c. 616.

Ken-shan-mun (艮山門), Oct., (nos. 388, 807, 808).

Nom. Jap. *Taukogi.*

The present specimen has pinnately 5-fid leaves.

162. **Carpesium abrotanoides** L.; DC. Prodr. VI. 282; Hook. f. Fl. Brit. III. 301. Max. in Mél. Biol. IX. 290; Forb.

et Hemsl. l.c. 430; Diels l.c. 615; Koidzumi in Bot. Mag. Tokyo XXIX. 377 (*in Japanese*).

Ken-shan-mun (艮山門), Oct., (nos. 506, 668, 672).

Nom. Jap. *Yabutabako* (天名精).

No. 672 specimen has much larger heads, and the identification is doubtful.

163. ? **C. divaricatum** Sieb. et Zucc. Fl. Jap. fam. nat. II. 187; Max. in Mél. Biol. IX. 283; Koidzumi l. c. 376; = *C. glossophyllum* Max.

Kong-yuan (貢院), Oct., (no. 172).

Nom. Jap. *Gamkubiso.*

This species is not yet reported from China, but an allied sp. *C. cernuum* L. is reported. This latter plant is described as having the achenia with somewhat long rostrum (Maximowicz), and as not having leafy involucre-bract (Koidzumi). The present specimen has the achenia with very short rostrum and the outermost involucre-bracts leafy and reflexed.

164. **Chrysanthemum coronarium** L.; DC. Prodr. VI. 64; Franch. Pl. David. 166; Hook. f. Fl. Brit. Ind. 314; Forb. et Hemsl. l. c. 437.

Ching-tai-mun (清泰門), Mai., (no. 1228).

Nom. Jap. *Shin-giku* (茼蒿).

165. **Ch. indicum** L.; Thunb. Fl. Jap. 320; Forb. et Hemsl. l.c. 437; Diels l.c. 317.

Tai-pin-mun (太平門), Sept., (nos. 677, 678); Oct., (nos. 699, 700, 836); Chi-ling (葛嶺), Sept., (nos. 152, 153, 173, 821); Oct., (nos. 139, 421); Ken-shan-mun (艮山門), Oct., (nos. 349, 768).

Nom. Jap. *Hama-Kangiku.*

166. **Cnicus japonicus** Max. in Mél. Biol. IX. 322 (Varietates); Forb. et Hemsl. l.c. 461; = *Circium japonicum* DC. Prodr. VI. 640; Hook. et Arn. Bot. Beech. Voy. 266; Diels l.c. 627.

Ching-tai-mun (清泰門), Apr., (no. 1134); Tai-pin-mun (太平門), Apr., (no. 12).

Nom. Jap. *No-azami.*

The determination of Tai-pin-mun specimen is not satisfactory.

167. **C. linearis** Benth.; Max. in Mél. Biol. IX. 330;=*C. chinensis* Benth. l.c. 331; Forb. et Hemsl. l.c. 461; Diels l.c. 627; =*Circium linearis* Benth; Miq. Prol. 116;=*Spanioptilon linearis* Less. in DC. Prodr. IV. 621; Sieb. et Zucc. Fl. Jap. Fam. nat. II. 192.

Ling-yin (靈隱), Sept., (no. 464); Oct., (no. 463!); Ya-feng (岳墳), Sept., (no. 463!); Chi-ling (葛嶺), Nov , (no. 385).

Nom. Jap. *Yanagi-azami.*

That *C. linearis* Benth is identical with *C. chinensis* Benth. is suggested by Maximowiez and Hemsley.

168. **C. Segetum** Max. in Mél. Biol. IX. 333; Forb. et Hemsl. l.c. 462;=*Circium Segetum* Bge.; Diels l.c. 628.

Ken-shan-mun (艮山門), Apr., (no. 1017).

169. **Coreopsis** sp.?

Ya-feng (岳墳), Nov., (no. 459). *Cult.*?

170. **Crepis japonica** Benth. Fl. Hongk. 194, et Fl. Austral. III. 670; Miq. in Ann. Mus. Bot. Lugd.-Bat. II. 190; Max. in Mél. Biol. IX. 346; Franch. Pl. David. 185; Hook. f. Fl. Brit. Ind. III. 395; Forb. et Hemsl. l.c. 475; Diels l.c. 632.

Tai-pin-mun (太平門), Sept., (no. 1048); Ken-shan-mun (艮山門), Aug., (no. 847); Oct., (no. 783); Wu-lin-mun (武林門), Apr., (no. 986); Lei-fung-tang (雷峰塔), Apr., (no. 979).

Nom. Jap. *Oni-tabirako.*

The specimen no. 1048 is somewhat abnormal, and the determination unsatisfactory.

forma foliosa f. n.

Annual, smooth, about 7 dm. high, branching, radical leaves ....., cauline leaves, sessile, alternate, membranaceous, sub-pinnately divided, segments subdeltoid, irregularly and grossly calloso-toothed, the terminal largest; the upper leaves oblong-lanceolate, acuminate; heads 6 mm. long, on slender, bracteolate peduncles, corymbosely arranged; fl. yellow, involucre-bracts narrowly oblong, acute; achenia dark brown narrowly fusiform, ribbed, beak inconspicuous; pappus soft, white.

Ken-shan-mun (艮山門), Mai., (no. 1180); Ku-shan (孤山), Mai., (no. 1302); Ching-tai-mun (清泰門), Mai., (no. 1195).

This is a form of *C. japonica* Benth., a species known to be very variable. My plant differs from the type by having well-developed cauline leaves; usually the radical rosulate leaves alone are seen in this species. The Japanese plant is slightly pubescent, and has smaller flowerheads.

171. **Eclipta alba** Hassk.; Benth. Fl. Hongk. 181; Hook. f. Fl. Brit. Ind. III. 304; Fr. Pl. David. 165; Forb. et Hemsl. l.c. 433; Diels l.c. 616.

Tai-pin-mun (太平門), Oct., (no. 450); Nov., (no. 70); Ken-shan-mun (艮山門), Aug., (no. 513); Oct., (nos. 550, 552).

Nom. Jap. *Takasaburo* (鱧腸).

172. **Erigeron canadense** L.; DC. Prodr. V. 289; Hook. f. Fl. Brit. Ind. III. 254; Forb. et Hemsl. l.c. 418; Diels l.c. 611.

Kong-yuan (貢院), Aug., (no. 557); Sept., (nos. 157. 585, 586); Ken-shan-mun (艮山門), Aug., (no. 517).

Nom. Jap. *Hime-mukashi-yomogi.*

173. **E. linifolius** Willd. Benth. Fl. Hongk. 176; Forb. et Hemsl. l.c. 418; Diels l.c. 612.

Ken-shan-mun (艮山門), Aug., (no. 510); Oct., (no. 95); Tai-pin-mun (太平門), Aug., (no. 504).

Nom. Jap. *Areji-nogiku.*

174. **Eupatorium Lindleyanum** DC. Prodr. V. (1836) 180; Benth. Fl. Hongk. 172; Forb. et Hemsl. l.c. 404; Diels l.c. 608.

Wu-lin-mun (武林門), Oct., (no. 706); Ku-shan (孤山), Oct., (no. 19); Aug., (no. 59?); Sept., (no. 414).

Leaves sub-trinerved, punctated with glands, involucre-bracts acute.

The specimen no. 59 seems to be of *var. trifolia* Makino (MSS.)

Nom. Jap. *Sawahiyodori.*

175. ? **E. Reevisii** Wall.

DC. Prodr. V. 179; Hook. et Arn. Bot. Beech. Voy. 267; Benth. Fl. Hongk. 172; Hook. f. Fl. Brit. Ind. III. 243; Forb. et Hemsl. l.c. 405.

Ku-shan (孤山), Sept., (nos. 419, 461); Po-su-tang (寶叔塔), Oct., (no. 841).

176. **Gnaphalium multiceps** Wall.; DC. Prodr. VI. 222;

Benth. Fl. Hongk. 188; Forb. et Hemsl. l. c. 427; Diels l. c. 613.

Ken-shan-mun (艮山門), Oct., (nos. 158, 781).

Nom. Jap. *Hahako-gusa* (鼠麹草).

177. **Inula britannica** L.; DC. Prodr. V. 467; Ledeb. Fl. Ross. II. 517; Max. Prim. Fl. Amur. 149; Forb. et Hemsl. l. c. 428; Diels l.c. 614.

Chi-ling (葛嶺), Sept., (nos. 28, 574, 575); Oct., (nos. 28, 548); Tai-pin-mun (太平門), Oct., (no. 166); Wu-lin-mun (武林門), Oct., (no. 366); Lho-wo-tang (六和塔), Aug., (no. 556); Ku-shan (孤山), Sept., (no. 571).

Nom. Jap. *Oguruma.*

178. **Lactuca brevirostris** Champ.; Benth. Fl. Hongk. 192; Hook. f. Brit. Ind. III. 405; Forb. et Hemsl. l.c. 478; Diels 631.

Ken-shan-mun (艮山門), Oct., (nos. 268, 814); Nov., (no. 735); —— (no. 440); Tai-pin-mun (太平門), Aug., (no. 415); Nov., (no. 746); Ching-tai-mun (清泰門), Nov., (no. 2).

Nom. Jap. *Aki-no-nogeshi.*

Several specimens from Han-chou (杭州) are of *var. foliis laciniatis*; *var. foliis indivisis* is not seen.

179. **L. chinensis** (Thunb.) Makino in Bot. Mag. Tokyo XVII (1903) 89; = *L. versicolor* Schultz-Bip.; Herder, Pl. Radd. III. 4. 29; Max. in. Mél. Biol. IX. 362; Baker et S. Moore in Journ. Linn. Soc. XVII 383; Forb. et Hemsl. l.c. 485; Diels l.c. 631.

Lung-ching (龍井), Apr., (no. 1068); Ya-feng (岳墳), Apr., (no. 981).

Nom. Jap. *Takasagosô.*

180. **L. denticulata** Max. in Mél. Biol. IX. 359; Fr. Pl. David. 188; Forb. et Hemsl. l.c. 480; Diels l.c. 631.

Nan-kau-fung (南高峰), Apr., (no. 1074); Tai-pin-mun (太平門), Sept., (no. 394); Oct., (no. 451).

Nom. Jap. *Yakushisô.*

This species is very variable, especially in regard to leaves.

181. **L. Matsumurae** Makino in Bot. Mag. Tokyo XII (1895) 45.

Pi-lai-fung (飛來峰), Apr., (no. 985).

Nom. Jap. *No-nigana.*

The present specimen seems to be of *var. dissecta* Makino as the form of leaves indicates. (Bot. Mag Tokyo, XXIV. 252).

182. **Lampsana parviflora** A. Gr. Bot. Jap. 396; Miq. Prol. 362; Fr. et Sav. Enum. Pl. Jap. I. 267.

Lung-ching (龍井), Apr., (no. 1087).

Nom. Jap. *Yabutabirako.*

This common plant is not yet reported from China. It is closely allied to *L. apogonoides* Max., but has much smaller achenia (about 2.5 mm. in length), while they are 4.5 mm. long in the allied species.

183. **Ligularia Tussilaginea** (Burm.). Max. in Bot. Mag. Tokyo XIII. 52;=*L. Kaempferi* Sieb. et Zucc. Fl. Jap. I. p. 77 t. 35; Bot. Mag. t. 5302 (*var. aureo-maculata*); Diels l.c. 622;=*Senecio tussilaginea* Burm.; O. Ktze "Rev. Gen. Pl. I. 364";=*S. Kaempferi* DC. Prodr. VI. 363; Max in Mél. Biol. VIII. 14; Fr. et Sav. Enum. Pl. Jap. I. 247; Forb. et Hemsl. l.c. 454.

Ken-shan-mun (艮山門), Nov., (no. 737).

Nom. Jap. *Tsuwa-buki* (蜀吾).

The specimen not well determined; the margin of leaves subentire, wavy, not distinctly dentate.

184. **Saussurea microcephala** Fr. in Journ. Linn. Soc. XXIII. 466 (non Diels); Matsuda in Bot. Mag. Tokyo XXV. (1911) 189.

Ling-yin (靈隱), Oct., (no. 169); Chi-ling (葛嶺), Sept., (no. 159); Tai-pin-mun (太平門), Oct., (nos. 164, 181; Aug., (nos. 137, 171); Ken-shan-mun (艮山門), Oct., (no. 193).

185. **S. affinis** Spreng. in DC. Prodr. VI. 540; Hook. f. Fl. Brit. Ind. III. 373; Forb. et Hemsl. l.c. 463; Diels l.c. 624.

Ku-shan (孤山), Mai., (no. 1320); Lung-Ching (龍井), Apr., (no. 1076).

Nom. Jap. *Kitsune-azami* (泥胡菜).

186. **Scorzonella albicaulis** Bunge; DC. Prodr. VII. 117, Max. in Mél. Biol. XII. 740; Forb. et Hemsl. l.c. 488;=*S. macrosperma* Turcz.; Forb. et Hemsl. l.c. 488; Diels l.c. 630.

Fong-wang-shan (鳳凰山), Mai., (no. 1273–1275).

Maximowicz states (l.c.): "Ligulae fide Bunge pallide roseae, fide Bretschneider luteae."

187. **Senecio Oldhamianus** Max. in Mél. Biol. VIII. 11 et 14.; S. Moore in Journ. Bot. (1878) 138; Hance ibidem (1882) 290; Franch. Pl. David. 175; Forb. et Hemsl. l.c. 455; Diels l.c. 620;=*S. Savatieri* Franch. Pl. David. 175, t. 15.

Ken-shan-mun (艮山門), Mai., (no. 1209); Tsen-tang-mun (錢塘門), Apr., (no. 888); Kong-yuan (貢院), Oct., (no. 776).

188. **S. scandens** Ham.; Hook. f. Fl. Brit. Ind. III. 352; Forb. et Hemsl. l. c. 457; Diels l. c. 620; Bot. Mag. Tokyo (1896) 315.

Chi-ling (葛嶺), Oct., (no. 417); Nov., (no. 480).

Nom. Jap. *Tai-kin-giku.*

189. **Siegesbeckia Orientalis** L.; DC. Prodr. V. 495; Lour. Fl. Cochinch. 504; Benth. Fl. Hongk. 182; Hook. f. Fl. Brit. Ind. III. 304; Forb. et Hemsl. l.c. 433; Diels l.c. 615.

Ken-shan-mun (艮山門), Oct., (nos. 434, 435); Sui-shing-kau (水星閣), Nov., (455).

Nom. Jap. *Menamomi.*

190. **Solidago Virgaurea** L.; DC. Prodr. V. 338; Benth. Fl. Hongk. 179; Hook. f. Fl. Brit. Ind. III. 245; Forb. et Hemsl. l.c. 406; Diels l.c. 609;

var. leiocarpa (Benth.) Miq.

Chi-ling (葛嶺), Oct., (no. 39); Ku-shan (孤山), Oct., (nos. 22, 23, 24, 332, 770), Nov., (no. 155).

Nom. Jap. *Aki-no-kirinso.*

This variety has smooth achenia.

191. **Sonchus arvensis** L.; DC. Prodr. VII. 187; Herder in Pl. Radd. III. 4. p. 46 (var. uliginosa); Hook. f. Fl. Brit. Ind. III. 414; Forb. et Hemsl. l.c. 487; Diels l.c. 631;=*S. uliginosa* Bieberst; DC. Prodr. VII. 186.

Ken-shan-mun (艮山門), Oct., (no. 862); —— (no. 651).

Nom. Jap. *Hachijōna.*

192. **S. oleraceus** L.; DC. Prodr. VII. 185; Benth. Fl. Hongk. 194; Hook. f. Fl. Brit. Ind. III. 414; Forb. et Hemsl. l.c. 487; Diels l.c. 630.

Ken-shan-mun (艮山門), Aug., (no. 488); Sept., (no. 10);

Oct., (nos. 110, 736, 849); Tai-pin-mun (太平門), Oct., (no 458); Nov., (no. 745).

Nom. Jap. *Nogeshi* (苦菜).

The determination of the specimen no. 488 is not satisfactory.

193. **Taraxacum officiale** Web.; Ledeb. Fl. Ross. II. 812; Hook. f. Fl. Brit. Ind. III. 401; Bak. et Moore in Journ. Linn. Soc. XVII. 383; Forb. et Hemsl. l.c. 478; Diels l.c. 630.

Ken-shan-mun (艮山門), Nov., (no. 470); (no. 468); Tai-pin-mun (太平門), Oct., (no. 659).

Nom. Jap. *Tan-po* (蒲公英).

194. **Xanthium strumarium** L.; DC. Prodr. V. 523; Benth. Fl. Hongk. 181; Hook. f. Fl. Brit. Ind. III. 303; Forb. et Hemsl. l.c. 433; Diels l.c. 615.

Tai-pin-mun (太平門), Oct., (no. 116).

Nom. Jap. *Onamomi.*

XXXVIII. **Campanulaceæ.**

195. **Adenophora sinensis** A. DC.; DC. Prodr. VII. 492; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 13.

Chi-ling (葛嶺), Oct., (no. 370?); Ku-shan (孤山), Oct., (no. 399?); Ken-shan-mun (艮山門), Oct., (no. ——); Ling-yin (靈隱), Oct., (no. ——).

This species is closely allied to *A. stricta* Miq. The present specimens are perfectly smooth.

XXXIX. **Ericaceæ.**

196. **Pieris ovalifolia** D. Don., DC. Prodr. VII. 599; Clarke in Hook. f. Flora Brit. Ind. III. 460; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 17; Diels in Engl. Bot. Jahrb. XXIX. 515.

Ken-shan-mun (艮山門), Oct, (no. 47); Ching-tai-mun (清泰門), Oct., (no. 57).

Nom. Jap. *Kashi-oshimi.*

Both specimens imperfect, determination unsatisfactory.

197. **Rhododendron indicum** Sweet; DC. Prodr. VII. 726

Max. Rhod. As. Or. 37; Fr. et Sav. Enum. Pl. Jap. I. 291; Forb. et Hemsl. l.c. 25; Diels l.c. 514.

Tai-pin-mun (太平門), Oct., (no. 46); Tsu-yun-dong (紫雲洞), Apr., (nos. 995, 996); Nan-kau-fung (南高峰), Sept.–Oct-, (nos. 165, 377).

Nos. 46, 165, 377 are the specimens with autumnflower.

198. **Rh. ovatum** Planch.; Bot. Mag. t. 5064; Forb. et Hemsl. l.c. 28; Diels l.c. 513; = *Azalea ovata* Lindl.; Benth. Fl. Hong. 201; = *A. mortifolia* Champ. in Bot. Mag. sub. t. 4609.

Si-ya-ling (栖霞嶺), Mai., (nos. 1196, 1213).

Under Bot. Mag. t. 5064, 3 var. are cited; of these the present specimen seems to be of var. *α.* (floribus pallide purpureis).

199. **Vaccinium bracteatum** Thunb. Fl. Jap. 156; DC. Prodr. VII. 573; Max. in Mél. Biol. VIII. 608; Fr. et Sav. Enum. Pl. Jap. I. 282; Forb. et Hemsl. l.c. 14; Diels l.c. 517.

Ku-shan (孤山), Oct., (nos. 13, 14, 16).

Nom. Jap. *Shashanbo.*

These Han-chou specimens and also those from Su-chou have much shorter leaves than the Japanese ones; still flowers are the same in both, the anthers being awnless.

200. **V. Donianum** Wight Ic. t. 1191; Clarke in Hook. f. Fl. Brit. Ind. III. 453; = *V. affine* Wight Ic. t. 1190.

var. Hangchouense v. n.

Shrub, branches dark colored, terete, erect-patent; leaves shortly petiolate, (petiole 2–3 mm.), coriaceous, 4–7 cm. long, 1½–2 cm. broad, oblong-lanceolate, long acuminate, submucronulate, subacute at base, indistinctly serrulate, nerves inconspicuous above, slightly elevated below; racemes both terminal and axillary, attaining 7 cm., densely paniculate towards the end of the branchlets; flowers secund, pedicels 4 mm. long, bracts and bractlets minute, deciduous; calyx smooth, lobes triangular, margin *not* ciliated; corolla subcampanulate or broadly tubular, 5 or 6 mm. long, smooth without and within, 5-lobed, lobes acute, reflexed; stamens 10, nearly 5 mm. long, filament hairy, anther roughish, prolonged into 2 cylindrical tubes with terminal oblique pores, tubes smooth, 1.5 mm. long;

2 awns on the back of the anther about ⅔ mm. long; style about the length of the corolla; fruit globose, about 4 mm. in diam., persistent calyx-lobes subinflexed.

This variety differs from the type by having the margin of the calyx-lobes not ciliated, the corolla smooth within, and style non-exserted. Wight's fig. (l.c.) represents *V. Donianum* with the margin of calyx-lobes ciliated, the corolla villose within (text states so too), and the style slightly exserted.

V. affine Wight which was reduced to *V. Donianum* by Clarke is represented in Wight's figures as having roughish anther, longer filament, and longer awns on the back of anther. In these characters my plant is more closely allied to *V. affine*.

V. Donianum Wight is easily distingnished from *V. bracteatum* Thunb. by having smooth calyx.

Po-kau-fung (北高峰), Apr., (no. 1266, a flowering specimen). A fruiting specimen was collected in Han-chou by K. Suzuki.

(*To be continued*)

Notulæ ad Plantas Japoniæ et Coreæ VIII.

auctore

T. Nakai.

111). **Cirsium alpicolum** Nakai sp. nov.

Pars caulis inferior desideratur. Caulis glaberrimus multistriato-sulcatus. Folia caulina subamplectentia, oblanceolata ciliato-incurvato-denticulata glaberrima. Folia involucrata nulla v. 1-2 caput multoties superantia. Involucri squamæ subæquilongæ lineariæ sed flexuosæ sed non reflexæ. Caput apice caulis solitarium v. binum, basi excavum. Tubus corollæ limbo duplo superans. Pappi plumosi biseriales tubo paulo superantes sordidi.

Nom. Jap. Mine-azami.

Hab. in monte Iwakisan. 24. VI. 1880. (R. Yatabe?).

112). **Cirsium comosum** (Fr. et Sav.) Matsum. Ind. Pl. Jap. III. p. 639.

Cnicus comosus Fr. et Sav. Enum. Pl. Jap. II. p. 409.

Nom. Jap. Iga-azami.

Hab. Oshima (Liukiu) secus litus maris VII. 1900 n. 4068 (Faurie). Yokosuka 25. XI. 1880 (?), Hakone 24. VII. 1886 (R. Yatabe).

Planta endemica!

113). **Cirsium pendulum** Fischer in DC. Prodr. VI. p. 650.

Cnicus pendulus (Fischer) Maxim. in Mél. Biol. IX. p. 332. Fran. et Sav. Enum. Pl. Jap. I. p. 262.

Nom. Jap. Ezono-takaazami.

Yeso: Tomakomai 13. VIII. 1899 (J. Matsumura). circa Junsainuma VIII. 1903 n. 5445. (Faurie).

Nippon: Shonai 22. IX. 1897. n. 169., Aomori 11 IX. 1885. (Faurie).

Distr. Korea, Manshuria, Dahuria, Amur et Ussuri.

114). **Cirsium Fauriei** Nakai sp. nov.

C. Schanterense affine sed exquo differt, spinis foliorum rigidioribus, involucri squamis duplo v. triplo latioribus. Foliorum forma *C. imcompto* simulans, sed capite nutante exquo differt.

Pars caulis inferior desideratur. Caulis superior lanuginosus demum glabrescens. Folia sessilia pinnatifida, lacinis patentibus v. reclinatis lineari-lanceolatis apice spinis 3–5 mm. auctis. Caput nutans globosum basi excavum 3–4 cm. diametro. Folia involucrata 1–2. Involucri squamæ subulatæ basi latissimæ, exteriores spinulatæ interiores purpureæ non spinulatæ. Corolla purpurea 15 mm. longa, tubo limbum 2.5-plo superante. Stamina semiexerta. Styli longe exerti. Pappi sordidi plumosi biseriales.

Nom. Jap. Kiso-azami.

Hab. Nippon: monte Ontake 11. VIII. 1911 n. 2220. (J. Nakai) in herbidis Agematsu VII. 1905 n. 7034. (Faurie).

115). **Cirsium norikurense** Nakai sp. nov.

Pars caulis inferior desideratur. Caulis superior flexuosus primo lanatus demum glabrescens. Folia caulina lanceolata basi acuta sessilia pinnatim incisa, lobis triangulari-acuminatis. Pedunculi foliacei. Caput primo nutans deinde erectum globosum 2 cm. diametro. Bracteæ subulatæ elongatæ reflexæ. Corolla 14 mm. longa, lobis 3 mm. longis. Pappi biseriales plumosi sordidi.

Nom. Jap. Urajiro-azami.

Hab. Nippon: in herbidis sylvarum Norikura 25. VIII. 1905 n. 7032. (U. Faurie).

116). **Cirsium Buergeri** Miq. v. **Albrechtii** (Maxim.) Nakai.

Cnicus Buergeri v. *Albrechtii* Maxim. in Mél. Biol. IX. p. 321.

Nom. Jap. Ezo-Yamaazami.

Hab. Yeso: in herbidis Nayoro IX. 1904 n. 6010. (U. Faurie).

Planta endemica!

117). **Cirsium nipponicum** (Maxim.) Makino in Tokyo Bot. Mag. XIX. p. 155.

var. **amplexifolium** Nakai. var. nov.

Folia basi auriculata amplexicaulia. Cet. ut in typo.

Nom. Jap. Dakiba-himeazami.

Hab. Nippon: in monte Iwatesan 25. VI. 1907. (G. Nakahara) Hachinohe 10. VIII. 1898 n. 1902. (U. Faurie).

118). **Clematis trichotoma** Nakai sp. nov.

Cl. Vitalba Lév. in Bull. l'Acad. Int. Geogr. Bot. (1902) p. 299. Nakai Fl. Kor. I. p. 10.

Cl. apiifolia Lév'l. in litt. (fide Faurie).

Species affinitas *C. Vitalbæ*. Caulis scandens angulato-sulcatus. Folia ternata v. biternata, segmentis ovatis trifidis v. grosse-ovato paucique serratis, utrinque secus venas pubescentibus. Pedunculi axillares trichotomi. Pedicellus unifloris. Sepala oblanceolata apice obtusiuscula 3–5 nervia, infra puberula supra glabra 1.5–2 cm. longa 4–5 mm. lata. Stamina numerosa sepalis breviora. Filamenta glabra linearia ad apicem paulum dilatata. Anthera 1.8–2 mm. longa elliptica, connectivo haud producto.

Hab. in dumosis montis des Diamantes VI. 1906 n. 141. (U. Faurie).

119). **Thalictrum coreanum** Lévl. v. **minor** Nakai var. nov.

Caulis 20 cm. non excedens. Folia biternata. Lamina 3 cm. non excedens grosse paucique serrata. Cet. ut in typo.

Hab. in rupibus montis des diamantes VI. 1906 n. 151. (U. Faurie).

120). **Isopyrum Léveilleanum** Nakai sp. nov.

I. grandiflorum Lévl. in litt. (fide Faurie).

Flores desunt. Tota glabra. Radix incrassata 6 cm. longa 7–8 mm. diametro. Folia radicalia 1–2, petiolis usque 14 cm. longis, ternata, segmentis ovatis trifidis lobis 2–3 lobulatis, lobulis rotundatis v. obovatis obtusis v. mucronulatis. Folia caulina ternata radicalibus conformia sed brevissime petiolata. Capsula in quoque fasciculo 2–5, divergens lanceolata. Semina oblonga v. obovata squamulis fusco-atris obtecta cc. 1.2 mm. longa 0.8 mm. lata.

Species affinis *I. grandiflori* sed differt caule polyantho, seminibus non echinatis.

Hab. in humidis silvarum Quelpært, Hallaisan V. 1907. n. 1724. (Faurie).

121). **Ranunculus hakkodensis** Nakai sp. nov.

Caulis repens carnosus usque 3 pedalis, circa basin dimetro cc. 5 mm., supremis partibus puberulis exceptis glaber. Folia radicalia arcuato-ascendentia v. arcuato-erecta, petiolis cc. 30 cm. longis. Lamina ternata obovato-attenuata late-mucronato-dentata utrinque puberula. Nonnulli nodi gemmam unicam gerent. Illæ gemmæ basi radices quibuscum cauli visum stolonis datas emittens. Folia caulina radicalibus conformia sed ad apicem decrescentia. Flores in apice rami solitarii, pedunculo cc. 1 pollicari puberulo. Sepala flava oblonga v. elliptica 3.5–4 mm. longa 2–2.5 mm. lata. Stamina 2–3 serialia. Anthera elliptica 0.5 mm. longa. Styli unguiculati.

Nom. Jap. Tsuru-Kitsuneno-botan.

In locis humidis herbosis montis Hakkodensis ubi Dr. K. Koriba legit, abunde crescit. Florens mense Augusto.

122). **Cardamine amaræformis** Nakai sp. nov.

Caulis cum inflorescentia usque 70 cm., stolones epigeos repentes soboliformes emittens. Folia radicalia emarcida frequenter supra basin articulatim sejuncta. Infraarticulares partes deinde manent et squamaeformes sunt. Hoc phenomenon in foliis caulinis etiam videbatur. Folia caulina imparipinnata, segmentis lateralibus 1–3 jugis omnibus rhomboideis v. rhombeo-rotundatis grosse- v. obscure serrata. Inflorescentia

terminalis v. subterminalis multifloris. Bracteæ desunt. Pedicelli flores duplo superantes. Flores 1 cm. diametro albi. Fructus usque 3.5 cm. longus ad stylum 5–8 mm. attenuatus. Stigmata stylo paulum latiora.

Hab. secus torrentes montis des diamantes 23. VI. 1906 n. 557. (Faurie) ibidem 18. VIII. 1902. (T. Uchiyama).

123). **Aruncus æthusifolius** (Lév.) Nakai. sp. nov.

Astilbe Thunbergii v. *æthusifolia* Lév. in Fedde Rep. (1910) p. 282.

Ex *A. Thunbergii* satis differt. Planta humilis. Folia glaberrima, segmentis inciso-lineari-laciniatis. Inflorescentia albo-ciliata, bracteis elongatis floribus æquantibus. Flores triplo minores. Ovarium 2-ovulis.

Radix perennis incrassata lignosa. Caulis humilis. Folia ambitu triangularia ternata et tum bipinnata. Segmenta foliorum ovata, terminalia maxima, omnia caudato-acuminata inciso-laciniata. Racemus laxus v. densus paniculatus adpresse-albo-ciliatus. Bracteæ lineares ad apicem decrescentes 3–1.5 mm. longæ in media pedunculi 1–1.5 mm. longi positæ. Pedunculi floriferi erecti, fructiferi nunc erecti, nunc nutantes v. intermixti. Calycis lobi lineares 1 mm. vix attingentes. Petala alba oblanceolata 1 mm. longa. Ovarium 1–3 vulgo 3. Capsula cum stylis recurvatis 0.8 mm. longis 3 mm. longa glaberrima lucida. Semina dua pendula.

Hab. Quelpært, monte Hallaisan VIII. 1911. (T. Mori) Quelpært, in petrosis secus torrentes X. 1906 n. 368. VII. 1907 n. 1655. (Faurie) in petrosis X. 1907. n. 148 (Taquet) in silvis VIII. 1907 n, 194 (Taquet) ibidem VIII. 1912. (T. Ishidoya).

124). **Carpinus Fauriei** Nakai sp. nov.

A *Carp. Tschonoskii* differt, foliis longius acuminatis, bracteis fructiferis lineari-lanceolatis, perigonio nucem totò incluso et 6–10 costatis.

Et a *Carp. yedoense* differt, bracteis fructiferis fere duplo angustioribus, foliis angustioribus.

Arbor alta. Ramus junior et pedunculus pubescens. Folia petiolata elliptica basi acuta v. obtusa apice acuminata v. caudato-acuminata, nervis lateralibus utrinque 12–13, margine irregulariter v. subduplicato et acuminato serrata, supra pubescentia demum glabrescentia, subtus secus venas pubescentia, petiolo 7–12 mm. longo primo puberulo demum glabro. Inforescentia fructifera declinata. Bracteæ lineari-lanceolatæ 17–18 mm. longæ, basi nucem paulo amplectens sessiles, uno latere integerrimæ, alio tantum acute-serratæ, basi secus venas pubescentes, infra medium latissimæ ubi 5–6 mm. latæ. Nux late-ovata, perigonio toto inclusa 4 mm. longa 3.5 mm. lata Perigonium 6–10 costatum apice puberulum.

Hab. Quelpært, in silvis X. 1907 n. 587 (Taquet) ibidem VIII. 1911. (T. Mori).

125). **Paspalum conjugatum** Berg. in Act. Helv. VII. (1772) p. 129. t. 8! Trin. Icon. Gram. t. 102. Steudel Syn. p. 21. Kunth Enum. I. p. 51. Hook. fil. Fl. Brit. Ind. VII. p. 11. Rendle in Journ. Linn. Soc. XXXVI. p. 319.

Nom. Jap. Suzumeno-nagabie. (nov.).

Hab. Bonin 1912. (B. Kawate). ibidem 1912 (S. Nishimura).

Planta nova ad Floram Japonicam sed late expansa in regionibus tropicis.

126). **Leptochilus decurrens** Bl. Enum. Pl. Jav. II. (1828) p. 206. Fée. Acrost. p. 88. t. 48 f. 2. C. Christ. Ind. Filic. p. 385.

Acrostichum variabilis Hook. Sp. Filic. V. p. 277. et Syn. Filic. p. 417.

Nom. Jap. Okino-Kuriharan. (nov.).

Hab. Bonin. 1912. (B. Kawate).

In regionibus tropicis Asiæ late expansus sed in Japonia est novus.

127). **Anaphalis Morii** Nakai sp. nov.

Caulis cum foliis decurrentibus alatus ita ad *A. pterocaulon*

affinis esse videtur, sed foliis proxime congestis margine crenatis, capitulis fere duplo majoribus ab illa specie optime dignoscenda.

Caulis basi perennis usque 20 cm. altus vulgo nanus, simplex v. ramosus. Folia oblanceolata 2–5 mm. lata 10–20 mm. longa basi in caules decurrenti-alata, supra viridia sparse arachnoidea, subtus nivea, densissime disposita, margine crenata. Capita 4–5 mm. lata. Involucri squamæ pellucido-scariosæ, interiores apice albæ. Flores numerosissimi. Corolla 3 mm. longa flava. Pappus corolla æquilongus setaceus sub lente setulosus.

Hab. Quelpært, in summo montis Hallaisan VIII. 1911, (T. Mori) Hallaisan VIII. 1912. (T. Ishidoya) ibidem VIII. 1907 n. 346. (Taquet) Quelpært 1200 m. X. 1906 n. 1067., in aridis et siccis Hallaisan 1200 m. et supra VIII. 1907 n. 1906 (Faurie).

128). **Stellaria trimorpha** Nakai sp. nov.

Caulis primo radicans deinde repens, intra folia secus caules bilineato-pubescens, ceterus glaber. Rami axillares filiformes repentes v. penduli stoloniformes v. soboliformes. Folia inferiora oblanceolata 2–3 cm. longa, in petiolem longe attenuata, præter marginem puberulam glabra. Folia media ovata basi in petiolem 2–3 mm. alatam cuspidata v. acuta, laminis 1.5–3.5 cm. longis 1–2.5 cm. latis. Folia superiora ovata v. late-ovata subsessilia apice cuspidato-attenuata basi mucronata v. subacuto-mucronata, laminis 3–13 mm. longis 3–10 mm. latis. Flores axillari v. terminali solitarii. Pedunculi gracillimi elongati fructiferi penduli 3–3.5 cm. longi puberuli. Calyx 5 fidus 5 mm. longus, nervis et marginibus barbatis, lobis lineari-lanceolatis. Styli 3. Capsula ovata 5 secta. Semina atro-fusca rotundata biconvexa minute papilloso-echinata.

Hab. Korea: in umbrosis montis des Diamantes 20. VI. 1906 n. 593 (Faurie).

129). **Lactuca Yoshinoi** (Makino) Makino et Nakai.

L. denticulata Maxim. var. *Yoshinoi* Makino in Tokyo Bot. Mag. XXIV. p. 302.

Affinitas *L. Bungeanæ* et *L. denticulatæ*, sed differt a prima radice perenne, foliis elongatis non sinuatis, a secunda radice perenne foliis elongatis subtus glaucioribus, capitulis 5-floris.

Radix perennis subfusiformis fasciculatus. Columna radicis 1–2 cm. longa. Planta tota glabra. Caulis solitarius v. 2–3 ramosus. Folia radicalia emarcida sed sub anthesin innovata evoluta, longe-petiolata, petiolis 3–5 cm. longis, laminis bene evolutis 9 cm. longis 3.5 cm. latis utrinque obsolete remoteque denticulata v. punctato denticulata in petiolem longe attenuata apice acuta v. acuminata supra viridia subtus glauca, male evoluta petiolo 3 cm. longo, lamina rotundata v. ovata 1.5 cm. longa 1.2–1.4 cm. lata. Folia caulina radicalibus conformia sed plus minus angustata in petiolem alato-decurrentia ita folia vulgo sessilia esse videntur. Capitula axillari v. terminali umbellatim disposita. Pedicelli 2–7 mm. longi, bracteas squamosas minutas 4–5 sub involucrum imbricatim aucti. Involucri squamæ 5 lineares sub anthesin 6–7 mm. longæ 1–1.2 mm. latæ. Flores semper 5. Ligulæ involucrum duplo superantes flavæ 2–3 mm. latæ apice 5 denticulatæ. Anthera exerta 3.8–4 mm. longa. Styli sub lente adpressissime ciliolati, stigamte bifido atro.

Planta saxatibis, supra calce crescit. Radix in calcis fissis alte penetrat.

Hab. Nippon: Hayama prov. Bitchu ubi legit Z. Yoshino mense Nov. anni 1910.

(*Continuatio sequitur.*)

A List of Plants collected in Hang-chou, Cheh-kiang, by K. Honda.

(*Continued from p. 320.*)

by

S. Matsuda.

XL. **Primulaceæ.**

201. **Androsace saxifragifolia** Bge. Duby in DC. Prodr. VIII. 53; Hook. f. Fl. Brit. Ind. III., Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 45; Diels in Engl. Bot. Jahrb. XXIX. 522; Gilg ibid. XXXIV. Beibl. Nr. 75, p. 56.

San-po (三堡), Apr., (no. 917).

Nom. Jap. *Ryuukyuu-kozakura.*

202. **Lysimachia candida** Lindl.; Walp Ann. I. 494; Forb. et Hemsl. l.c. 48; Diels l.c. 523;=*L. obovata* Ham.; Hook. f. l.c. 502.

Ling-yin (靈隱), Apr., (nos. 1110, 1111).

Co..fer Fr. et Sav. Enum. Pl. Jap. II. 431 for distinction from *L. leucantha* Miq.

203. **L. Christinæ** Hance in Journ. of Bot. XI. (1873) 167 et XX (1882) 36; Forb. et Hemsl. l.c. 49; Diels l.c. 523;

var. typica R. Knuth in Engl. Pfl.Reich Heft. 22 (Primulac.) 260.

Chi-ling (葛嶺), Jun., (no. 1329).

204. **L. deltoidea** Wight; Hook. f. l.c. 505; Pax et Knuth in Engl. Pfl.Reich Heft 22 (Primulac.) 263.

var. *α.* typica R. Knuth. l.c.

Pon-shan (半山), Mai., (nos. 1291, 1292).

205. **L. Fortunei** Max.; Hance in Journ. Linn. Soc. VIII. 275; Forb. et Hemsl. l.c. 52.

Ken-shan-mun (艮山門), Oct., (no. 615).

Nom. Jap. *Numatoranō.*

206. **L. grammica** Hance in Journ. Bot. XV. (1877) 357; Forb. et Hemsl. l.c. 52 Diels l.c. 315; Pax et Knuth l.c. 263.

var. typica R. Knuth l.c.

Ken-shan-mun (艮山門), Mai., (nos. 1297, 1298, 1317).

XLI. Myrsineæ.

207. **Ardisia japonica** Bl.; DC. Prodr. VIII. 135; Miq. in Ann. Mus. Bot. Lugd.-Bat. II. 263 et III. 190; Fr. et Sav. Enum. Pl. Jap. I. 305; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 65; Diels in Engl. Bot Jahrb. XXIX. 518; = *Bladhia japonica* Thunb. Fl. Jap. 95 t. 18.

Ken-shan-mun (艮山門), Nov., (nos. 647, 648?, 650).

Nom. Jap. *Yabukōji* (紫金牛).

XLII. Styracaceæ.

208. ? **Styrax Faberi** Perk. in Engl. Pfl.Reich Heft 30 (Styracaceæ) 33.

S. serrulatus Roxb. in Journ. Linn. Soc. XXVI. 77 *p. pte.* (ex Perkins).

Tsu-yun-dong (紫雲洞), Mai., (no. 1158); Si-ya-ling (棲霞嶺).

Identification is not satisfactory.

209. **Symplocos cratægoides** Buch.-Ham.; DC. Prodr. VIII. 258; Clarke in Hook. f. Fl. Brit. Ind. III. 573; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 72; Gürke in Engl. et Prantl Pfl.Fam. IV. 1., 169; Diels in Engl. Bot. Jahrb. XXIX. 528; Brand in Engl. Pfl.Reich Heft 6 (Symplococac.) 33.

Tin-cha-shan (丁家山), Mai., (no. 1257); Si-ya-ling (棲霞嶺), Apr., (no. 1201); Ghi-wang-shan (玉皇山), Mai., (no 1188).

Nom. Jap. *Sawafutagi.*

Distinguished from the allied species by having smooth ovary and fruit.

210. **S. neriifolia** Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 10; Miq. in Ann. Mus. Bot. Lugd.-Bat. III. 102; Fr. et Sav. Enum. Pl. Jap. I. 308; Engl. in Engl. Bot. Jahrb. VI. 65; Forb. et Hemsl. l.c. 74; Brand l.c. 67.

Po-kau-fung (北高峰), Mai., (nos. 1238, 1266, 1269).

Nom. Jap. *Mimidzu-bai.*

XLIII. Oleaceæ.

211. **Chionanthus** sp.

Shrub or tree, diœcious?, branches subterete, ashy in color, young ones pubescent; leaves opposite, shortly petiolate, petiole 3–8 mm. long, lamina membraceous (in the flowering specim.), smooth, elliptical (4–8 × 2–3.5 cm.), cuneate at base, acute or obtuse, primary nerves 5–7 on each side, serrulate on the margin; fls. ♂ (♀ not seen) in paniculate or sub-umbellate inflorescence terminating the branchlets, its branches perfectly smooth, dark in color, gracile; pedicels 1 cm. long or more, gracile, smooth; sepals 4, subulate, corolla white?, deeply 4-parted, tube very short, segments linear, nearly 1.5 cm. long, gradually narrowed towards the base, obtuse!; stamens 2, almost included in the corolla-tube, filament very short, anther ovate, connective pointed.

I saw flowering specimens, but found no female fl. I noticed the lowermost two leaves of the branchlets are very small.

The present sp. differs from *Ch. retusus* Lindl. by having short petioles. It differs from the more closely allied sp. *Ch. Virginica* L. by having *obtuse* corolla-lobes.

Ghi-wang-shan (玉皇山), Mai., (nos. 1162, 1171, 1172).

212. **Fontanesia phillyreoides** Labill.; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 87.

Yi-po (一堡), Mai., (nos. 1345, 1346); Tse-po (七堡), Mai., (nos. 1249, 1250, 1263).

Nom. Jap. *Kobatago.*

213. **Forthysia viridissima** Lindl.; Walp. Ann. I. 501; Bot. Mag. t. 4587; Forb. et Hemsl. l.c. 82.

San-tai-shan (三台山), Apr., (no. 1041).

214. **Ligustrum lucidum** Ait. Hort. Kew. ed. 2. I. 19; DC. Prodr. VIII. 293; Bot. Mag. t. 2565; Forb. et Hemsl. l.c. 92.

Tai-pin-mun (太平門), Oct., (no. 21).

This sp. is closely allied to *L. japonicum* Thunb., but the former has less coriaceous leaves, minutely punctated on the back, and ovate-oblong in form, while in the latter they are ovate. In the dried specimen of *L. lucidum*, the fruits are brown, and are slightly curved, while those of *L. japonicum* are black.

XLIV. **Apocynaceæ.**

215. **Trachelospermum jasminoides** Lemaire; Fr. Pl. David. 206; Max. in Engl. Bot. Jahrb. VI. 65; Fr. et Sav. Enum. Pl. Jap. II. 438; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 99.

Chi-ling (葛嶺), Oct., (nos. 419, ——, ——); Ghi-wang-shan (玉皇山), Mai., (no. 1161); Tsu-yu-dong (紫雲洞), Mai., (no. 1165); Ku-shan (孤山), Mai., (no. 598).

Nom. Jap. *Teika-Katsura.*

[A sp. of *Asclepiadaceæ*, quite indeterminable. Lei-fung-tang (雷峰塔), June, (nos. 1325, 1326)].

XLV. **Loganiaceæ.**

216. **Buddleia Lindleyana** Fortune; Benth. in DC. Prodr. X. 446; Max. Mél. Biol. X. 674; Benth. Fl. Hongk. 231; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 119; Diels in Engl. Bot. Jahrb. XXIX. 535; P. Dop in Bull. Soc. Bot. France, Memoires 19. p. 7.

Ku-shan (孤山), Oct., (no. 17).

Nom. Jap. *Tō-fujiutsugi.*

XLVI. **Gentianaceæ.**

217. **Limnanthemum nymphoides** Hoffm. et Link; DC. Prodr. IX. 138; Clarke in Hook. f. Fl. Brit. Ind. IV. 131;

Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 142; Diels in Engl. Bot. Jahrb. XXIX. 539.

Lho-wo-tang (六和塔) Mai., (no. 1232); Tai-pin-mun (太平門) Oct., (nos. 687, 692).

Nom. Jap. *Asa-za* (蒼菜).

Specimens from Tai-pin-mun are sterile, and the determination is unsatisfactory.

XLVI. **Boraginaceæ.**

218. **Bothriospermum tenellum** Fisch. et Mey; DC. Prodr. X. 116; Benth. Fl. Hongk. 235; Max. in Mél. Biol. VIII. 560; Clarke in Hook. f. Fl. Brit. Ind. IV. 167; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 152; Diels in Engl. Bot. Jahrb. XXIX. 546;=*B. aspergoides* Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 150.

Ken-shan-mun (艮山門), Oct., (no. 714).

Nom. Jap. *Hanaibana.*

219. **Lithospermum Zollingeri** DC. Prodr. X. 587; Hance in Journ. Bot. 1878, p. 13; Franch. Pl. David. 214; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 155; Diels in Engl. Bot. Jahrb. XXIX. 546.

Chi-ling (葛嶺), Apr., (nos. 910, 911); Ku-shan (孤山), Apr., (no. 918).

Nom. Jap. *Hotaru-katsura.*

220. **Omphalodes** sp.

Herb annual, 5 or 6 dm. high, suberect, adpressedly haired, branching in the upper part of the stem; leaves oblong, obtuse, adpressedly hispidulous above and beneath, long petiolate; racemes elongated, loosely flowered, ebracteate, fl. very shortly pedicellate, very small, blue; calyx 5-parted, segments elliptical, acute, hispidulous; the tube of corolla short, broad, subequal to the 5-lobed limb, the lobes suborbicular, subpatent; scales in the throat, subcrescent, hairy; stamens 5, included, filament very short, anthers oblong, obtuse; ovary deeply 4-parted, style short, stigma subcapitate; nutlets 4, smooth, subdepressed, with cupular appendage, the margin of which is entire and leathery.

Fr. not fully matured, determination unsatisfactory.
Pon-shan (半山), Mai., (no. 1310).

221. **Thyrocarpus** sp.

Herb, 3–5 dm., many-stemed, branching, subvilloso-hipid with patent hairs; leaves obovato-oblong, or subspatulate, acute, narrowed towards base, calloso-denticulate, (7 × 2 cm.), the lower ones spatulate, petiolate; raceme leafy, elongated (fully-developed one not seen); flowers pedicellate, extra-axillary, fruiting pedicel 3 times as long as calyx, arcuate; calyx deeply 5-parted, slightly enlarged in fruit, segments ovate-lanceolate, hispid, in fruit 3 mm. long and tending to connive; corolla exceeding calyx, blue, 5-lobed, lobes a little shorter than the tube, sub-orbicular, scales 5, sub-rectangular, sub-emarginate; stamens 5, included, filament short, anthers short, subobtuse; ovary deeply 4-lobed, style not very long, somewhat thick, stigma subcapitate; nutlets 4 (not fully matured), compressed, tuberculate, furnished with cup-like appendage on the back, the appendage is double-margined, the internal margin entire, the external toothed, teeth 15 (?), long, submuricate on the top.

Of a few species of the genus reported from China, my plant differs from *Th. fulvescens* and *glochidiatus*. From *Th. Sampsoni* it differs by having long pedicellate fl. It is perhaps an undescribed sp., but I do not see a fully developed raceme and a matured fruit.

Tsu-yun-dong (紫雲洞), Apr., (no. 875); Chi-ling (葛嶺), Apr., (nos. 908, 909).

222. ? **Th. Sampsoni** Hance in Ann. Sc. Nat. 14 sér. XVIII. 225. (Max. in Mél. Biol. VIII. 562 et X. 679; Forb. et Hemsl. l.c. 149).

Herb. (the lower portion of the stem not seen), densely strigose, cauline leaves sessile, subspatulate, strigose, acute, narrowed towards base, (5 × 1 cm.); raceme axillary, 2 dm. long or more, bracteate, fl. axillary, on pedicel hispid and subequal to calyx, fruiting pedicel 4 mm. long, recurved; calyx hispid 5 parted, segments ovate, oblong, acute; corolla minute, blue, with short tube, 5 lobed, lobes sub-orbicular, throat furnished

with scales, which are oblong or sub-rectangular; stamens 5, included, filament very short, anthers short, obtuse; ovary 4 lobed, style thick, short, subentire; fruiting calyx slightly enlarged, carpophore conical, not very conspicuous; nutlets 4, dark brown, depressed, tuberculate, with small, smooth, margined scar; cup-like appendage on the back of the nutlet is double-margined, the external margin toothed, the teeth 20 in number, long, sharp; the internal entire.

Henry's specim. no. 823 from Hupeh and named *Th. Sampsoni* is a sp. of *Bothriospermum*, (confer Bot. Mag. Tokyo, XXVI. 94).

Swi-shin-kau (水星閣), Mai., (no. 1160).

223. **Trigonotis peduncularis** (Trev.) Benth.; Forb. et Hemsl. l.c. 153; Diels l.c. 546; =*Eritrichum peduncularis* DC. Prodr. X. 128.

Wu-lin-mun (武林門), Apr., (nos. 928, 929).

Nom. Jap. *Tabirako.*

XLVII. **Convolvulaceæ.**

224. **Calystegia hederacea** Wall.; DC. Prodr. IX. 434; Clarke in Hook. f. Fl. Brit. Ind. IV. 217; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 164.

Ken-shan-mun (艮山門), Sept., (no. 428).

Nom. Jap. *Kohirugao.*

225. **Cuscuta japonica** Chois.; Benth. Fl. Hongk. 241; Forb. et Hemsl. l.c. 168; Diels in Engl. Bot. Jahrb. XXIX. 545.

Chi-ling (葛嶺), Oct., (no. 199); Nov., (no. 423).

Nom. Jap. *Nenashikatsura* (菟絲子).

226. **Ipomœa aquatica** Forsk.; Clarke in Hook. f. Fl. Brit. Ind. IV. 210; Forb. et Hemsl. l.c. 157; =*I. reptans* Poir.

Ching-tai-mun (清泰門), Oct., (no. 56); Aug., (no. 438); Tai-pin-mun (太平門), Oct., (no. 588).

Nom. Jap. *Yōsai* (蕹菜).

227. **I. Nil** Roth; =*Pharbitis Nil* Chois in DC. Prodr. IX. 343.

Ken-shan-mun (艮山門), Oct., (no. 103); Ya-feng (岳墳), Aug., (nos. 123, 125).

Nom. Jap. *Asagao* (碧花).

XLVIII. **Solanaceæ.**

228. **Lycinum chinense** Mill.; DC. Prodr. XIII. 1. 510; Benth. Fl. Hongk. 244; Walp. Rep. III. 107; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 175.

Tai-pin-mun (太平門), Oct., (nos. 61, 470, 792); (——, ——) (nos. 637, 891).

Nom. Jap. *Kuko* (枸杞).

229. **Physalis minima** L.; DC. Prodr. XIII. 445; Clarke in Hook. f. Fl. Brit. Ind. IV. 238; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 174; Lévl. in Bull. Soc. Bot. LV. 208.

Tsen-tang-mun (錢塘門), Sept., (nos. 704, 705).

230. **Solanum Dulcamara** L.; DC. Prodr. XIII. 1. 78; Clarke in Hook. f. Fl. Brit. Ind. IV. 229; Hance in Journ. Linn. Soc. XIII. 84; Forb. et Hemsl. l.c. 169;

VAR.

Po-su-tang (寶叔塔), Oct., (nos. 29, 129, 833).

This sp. is very variable. The present plant is smooth, leaves ovate oblong, acute or sub-acuminate, subcordate or truncate at base, fl. white (in dried specim.), about 12 mm. in diam. *Var. glabrescens* Makino (the specim. kept in the Herbarium of Bot. Inst. Sci. Col.) is closely allied, but fl. larger in the present specim.).

231. **S. lyratum** Thunb. Fl. Jap. 92; Dunal in DC. Prodr. XIII. 1. 79.

Ku-shan (孤山), Aug., (no. 473); Ken-shan-mun (艮山門), Oct, (nos. 131, 132, 710); Tai-pin-mun (太平門), Oct., (nos. 760, 764, 765, 801).

Nom. Jap. *Hiyodori jōgo.*

232. **S. nigrum** L.; DC. Prodr. XIII. 1.50; Benth. Fl. Hongk. 242; Clarke in Hook. f. Fl. Brit. Ind. IV. 229; Forb. et Hemsl. l.c. 171.

Tai-pin-mun (太平門), Nov., (no. 742); Ken-shan-mun (艮山門), Oct., (nos. 333, 351, 361, 739); ——, —— (no. 893).

Nom. Jap. *Inu-hōzuki.*

XLIX. Scrophulariaceæ.

233. **Centranthera Brunoniana** Wall.; DC. Prodr. X. 525; Hook. f. Fl. Brit. Ind. IV. 301; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 201; Diels in Engl. Bot. Jahrb. XXIX. 569;=*C. hispida* Benth. in Fl. Hongk. 254.

Tsu-yun-dong (紫雲洞), Sept., (no. 434); Tai-pin-mun (太平門), Oct., (no. 107); Ken-shan-mun (艮山門), Oct., (no. 88); Chi-ling (葛嶺), —— (no. 493).

Nom. Jap. *Goma-kusa.*

The present sp. has yellow corolla. *C. hispida* Benth. is said to be yellow flowered, but *C. hispida* Br., purple flowered.

234. **Mazus japonicus** O. Ktze; Makino in Bot. Mag. Tokyo (1900) 170; Nakai ibid. (1908), 394 (*in Japanese*);=*M. rugosus* Lour.; Benth. in DC. Prodr. X. 375; Benth. Fl. Hongk. 247; Max. in Mél. Biol. IX. 402; Forb. et Hemsl. l.c. 183; Diels l.c. 566; Bonati in Bull. Herb. Boiss. (1908) 527.

Ken-shan-mun (艮山門), Aug., (no. 471); Sept. (no. 468); Oct., (nos. 104, 772).

Nom. Jap. *Tokiwa-haze.*

235. **M. Miquelii** Makino in Bot. Mag. Tokyo (1902) 162; Nakai ibid. (1908) 394 (*in japanese*);=*M. rugosus* Lour. *var. β.? stolonifer* Max in Mél. Biol. IX. 403;=*M. rugosus* Lour. *var. macrantha* Fr. et Sav.;=*M. japonicus* Bonati in Bull. Herb. Boiss. VIII. (1908) 528.

Su-po (四堡), Apr., (nos. 982, 1006).

Nom. Jap. *Sagi-goke.*

236. **M. stachydifolius** Max. in Mél. Biol. IX. 404; Baker et Moor in Journ Linn. Soc. XVII. 385; Forb. et Hemsl. l.c. 183; Diels l.c. 566.

Chi-ling (葛嶺), Apr., (no. 904).

237. **Monochasma Sheareri** Max.; Fr. et Sav. Enum. Pl. Jap. II. 458; Forb. et Hemsl. l.c. 203.

Mo-cha-bu (茅家埠), Apr., (no. 1093–1096).

Franchet l.c. cites *var. japonicum* Max. (*Kagaribisō*), which is distinguished from the type thus: "var. japonicum, minute

puberulum vel subglabrum, omnibus partibus major." The present specimens are somewhat pubescent.

238. **Phteirospermum chinense** Bge.; Benth. in DC. Prodr. X. 527 et 538; Fr. Pl. David. 225; Forb. et. Hemsl. l.c. 204.

Ku-shan (孤山), Oct., (no. 333); Tsen-tang-mun (錢塘門), Aug., (no. 167); Sept., (nos. 31, 140); Oct., (no. 317).

Nom. Jap. *Koshiogama.*

239. **Scrophularia ningponensis** Hemsl. in Journ. Linn. Soc. XXVI. 179.

Ken-shan-mun (艮山門), Oct., (nos. 354, 422).

Stiefelhagen (in Engl. Bot. Jahrb. XLIV. 461) reduces *S. ningponensis* Hemsl. to *S. nodosa* L. The same author also reduces *S. Kakudensis* Fr. (*O-hina-no-usutsubo*) to *S. nodosa* L.

240. **Scrophularia** sp.?

Ching-tai-mun (淸泰門), Nov., (no. 59).

Imperfect specim., indeterminable.

241. **Veronica Anagalis** L.; DC. Prodr. X. 467; Ledeb. Fl. Ross. III. 236; Forb. et Hemsl. l.c. 198; Diels l.c. 567.

Ken-shan-mun (艮山門), Apr., (no. 1181); Mai., (nos. 1206, 1237).

Nom. Jap. *Kawajisa.*

242. ? **V. polita** Fries; Halác. Fl. Græcæ II. 435.

Sui-shing-kau (水星閣), Mar., (no. 938); Wu-shan (吳山), Feb., (no. 952).

Nom. Jap. *Inunofuguri.*

The present specimen wants mature fruit. This species is not cited by Hemsley, but he cites *V. agrestis* L. which is closely allied to *V. polita* Fries.

L. **Orobanchaceæ.**

243. **Aeginetia indica** Roxb.; Reuter in DC. Prodr. XI. 43; Wight Ic. t. 895; Hook. f. Fl. Brit. Ind. IV. 320; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 220; (confer Makino, Phanerog. et Pterid. Jap. Ic. Ill. II. t. 80, et Bot. Mag. Tokyo XXIV. 13).

San-tai-shan (三台山), Oct., (no. 442).

Nom. Jab. *Omoi-gusa*.

This sp. differs from *Ae. Japonica* Sieb. et Zucc. in acute calyx, less patent corolla lobes, less stout peduncles etc.

[*Utricularia* sp.; sterile specim., indeterminable. Chi-ling (葛嶺), Oct., (no. 796)].

LI. Gesneraceæ.

244. **Chrita sinensis** Lindl.; Walp Ann. III. 98; Benth. Fl. Hongk. 259; Max. in Mél. Biol. IX. 369; Clarke in DC. Monogr. Phanerog. V. 1. p. 130; Bot. Mag. t. 4284; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 232.

Ghi-wang-shan (玉皇山), Jun., (no. 1360).

LII. Acanthaceæ.

245. **Asystasia chinensis** S. Moore in Journ. Bot. 1875; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 243; Diels in Engl. Bot. Jahrb. XXIX. 579.

Po-su-tang (寶叔塔), Oct., (nos. 376, 462).

246. **Dicliptera crinita** Nees in DC. Prodr. XI. 485; Forb. et Hemsl. l.c. 248; Diels in Engl. Bot. Jahrb. XXIX. 579.

Ken-shan-mun (艮山門), Oct., (nos. 605, 608, 612); Tsu-yun-dong (紫雲洞), Oct., (no. 707); Tai-pin-mun (太平門), Oct., (no. 425).

Nom. Jap. *Hagurosō*.

247. ? **Hygrophila salicifolia** Nees in DC. Prodr. XI. 92; Benth. Fl. Hongk. 261; Clarke in Hook. f. Fl. Brit Ind. IV. 407; Wight Ic. t. 1490; Forb. et Hemsl. l.c. 237; Diels l.c. 578.

Po-su-tang (寶叔塔), Oct., (no. 139); Yu-chin-mun (湧金門), Nov., (142).

The specimen wants flowers, and is difficult for me to distinguish it from *H. lancea* Miq.

248. **Justicia procumbens** L; Forb. et Hemsl. l.c. 246; Diels l.c. 579.

Ku-shan (孤山), Sept., (no. 484); Ken-shan-mun (艮山門), Aug., (nos. 497, 822); Sept., (no. 433); Oct., (nos. 553, 812).

Nom. Jap. *Kitsune-no-mago*.

LIII. Verbenaceæ.

249. **Caryopteris Mastacanthus** Schauer in DC. Prodr. XI. 625; Benth. Fl. Hongk. 268; Bot. Mag. t. 6799; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 263.

Chi-ling (葛嶺), Oct., (nos. 358, 359); Nov., (no. 303); Ku-shan (孤山), Sept., (no. 457); Ya-feng (岳墳), Sept., (no. 459).

Nom. Jap. *Dangiku*.

250. **C. nepetæfolia** Max. in Mél. Biol. IX. 830 et XII. 524; Forb. et Hemsl. l.c. 264; = *Teucrium nepetæfolia* Benth. in DC. Prodr. XII. 580; Hemsl. in Journ. Bot. 1876, 208; S. Moore in Journ. Bot. 1876, 138.

Herb, perennial?, attaining 5 or 6 dm., dull green, pubescent, erect or often decumbent?, *stem* square, branching; *leaves* on pubescent short petiole, shortly ovate or subtriangular, obtuse, subtruncate or cuneate at base, grossly creneate, subglabrous both above and underneath, *flowers* axillary, solitary, somewhat showy, 1 cm. or more in diam., peduncles about 2 cm. long, gracile, dense hairy, with 2 minute bracts a little above the middle; *calyx* hairy, 5-lobed, lobes subequal, slightly longer than the tube, ovate, subacuminate, 10-nerved; *corolla* with somewhat short tube, 5-lobed, lobes pubescent within, the anterior largest, suborbicular, the lateral and posterior ones subequal, subobovate, obtuse; *stamens* 4, exserted from between posterior corolla-lobes, ascending, outer or lower pair slightly longer, filament smooth, anthers confluent; *style* exceeding the stamens, 2-parted above, smooth; *ovary* hairy, obscurely 4 (?)-lobed.

I identify the present specimen with *Caryopteris nepetæfolia* Maxim. This plant was once placed by Benthum in *Teucrium*, a genus of *Labiatæ*, but Maximowicz placed it in *Caryopteris*, a genus of *Verbenaceæ*. The largest lobe of corolla is

entire in the present sp., but it is fimbriate or crispate in other species of the genus.

Wu-shan (吳山), Apr., (nos. 1118–1120, 1130); Wang-sung-ling (萬松嶺), Mai., (no. 1203).

251. **Clerodendron fragrance** Vent., Schauer in DC. Prodr. XI. 666; Hook. et Arn. Bot. Beech. Voy. pp. 205 et 268; Max. in Mél. Biol. XII. 518; Bot. Mag. t. 1834 (*double-flowered*); Forb. et Hemsl. l.c. 260; Diels in Engl. Bot. Jahrb. XXIX. 549.

Ken-shan-mun (艮山門), Oct., (no. 613?).

Nom. Jap. *Yaezaki-kusagi* [Kawakami, a List of Plants of Formosa].

This sp. is described as having paired glands on the back of leaves near the base. In my specimen they were noticed only in a single leaf.

252. **C. trichotomum** Thunb. Fl. Jap. 256; Schauer in DC. Prodr. XI. 668; Bot. Mag. t. 6561; Forb. et Hemsl. l.c. 262.

Ken-shan-mun (艮山門), Oct., (no. 798).

Nom. Jap. *Kusagi* (海州常山).

253. **Premna macrophylla** Turcz., Max. in Mél. Biol. XII. 510; Forb. et Hemsl. l.c. 256; Diels. l.c. 548; *P. japonica* Miq. in Ann. Mus. Bot. Lugd.-Bat. II. 97.

Chi-ling (葛嶺), Jun., (no. 1333).

Nom. Jap. *Hama-Kusagi.*

254. **Verbena officinalis** L.; Forb. et Hemsl. l.c. 252; Diels l.c. 547.

Ching-tai-mun (清泰門), Sept., (nos. 311, 521); Ken-shan-mun (艮山門), Aug., (no. 558); Oct., (nos. 117, 623); Ku-shan (孤山), Oct., (no. 529); Tai-pin-mun (太平門), Oct., (no. 94).

Nom. Jap. *Kuma-tsuzura* (馬鞭草).

255. **Vitex Negundo** L.; Schauer in DC. Prodr. XI. 684; Benth. Fl. Hongk. 273; Clarke in Hook. f. Fl. Brit. Ind IV. 583 (excl. *var. incisa*); Forb. et Hemsl. l.c. 258; Diels l.c. 549.

Ken-shan-mun (艮山門), Oct., (nos. 72, 603); Aug., (nos. 326, 563); Tai-pin-mun (太平門), Oct., (no. 79).

Nom. Jap. *Ninjin-boku* (牡荊).

LIV. **Labiatæ.**

256. **Ajuga genevensis** L.; Benth. in DC. Prodr. XII. 596; Max. in Mél. Biol. XI. 815; Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 315; Diels in Engl. Bot. Jahrb. XXIX. 550.

Ku-shan (孤山), Apr., (nos. 1025, 958).

The present specim. seems to be of *var. pallescens* Max.

257. **Brnella vulgaris** L.; Forb. et Hemsl. l.c. 299; Diels l.c. 554.

Ken-shan-mun (艮山門), Oct., (no. 602).

Nom. Jap. *Utsubogusa* (滁州夏枯草).

258. **Calamintha chinensis** Benth. in DC. Prodr. XII. 233; Forb. et Hemsl l.c. 283;=*Statureia chinensis* Briq.; Diels l.c. 559.

Ken-shan-mun (艮山門), Nov, (no. 182); Chi-ling (葛嶺), Nov., (no. 481); Ya-feng (岳墳), Sept., (no. 478); Tai-pin-mun (太平門), Sept., (no. 669); Oct., (nos. 697, 698).

Nom. Jap. *Kuruma-bana* (風輪菜).

259. **C. gracilis** Benth. in DC. Prodr. XII. 232; Fr. et Sav. Enum. Pl. Jap. I. 369; Forb. et Hemsl. l.c. 283;=*Statureia gracilis* Briq.; Diels l.c. 559.

Tai-pin-mun (太平門), Nov., (no. 748); Ken-shan-mun (艮山門), Nov., (no. 747); Ling-yin (靈隱), Mai., (no. 1233).

Besides the three species of the genus cited here in this list there is recorded from China another sp. *C. confinis* Hance (Journ. Bot. 1868, 331). This sp. is said to be an intermediate one between *C. gracilis* and *C. umbrosa*.

260. **C. umbrosa** Benth. in DC. Prodr. XII. 232; Hook. f. Fl. Brit. Ind. IV. 650; Fr. et Sav. Enum. Pl. Jap. I. 368; Forb. et Hemsl. l.c. 284;=*Melissa umbrosa* Bieber.; Wight Ic. t. 1447;=*Statureia umbrosa* Scheele; Diels l.c. 559.

Tai-pin-mun (太平門), Oct., (no. 671).

261. **Dysophylla Yatabeana** Makino in Bot. Mag. Tokyo XII. 55.

Tsen-tang-mun (錢塘門), Nov., (nos. 369, 372); Yu-ching-mun (湧金門), Oct., (nos. 755, 756); Dec., (no. 373?).

Nom. Jap. *Midzu-toranō*.

If I am right in identification the present sp. is new to the Chinese Flora.

262. **Elsholtzia cristata** Willd.; Benth. in DC. Prodr. XII. 163; Hook. f. Fl. Brit. Ind. IV. 645; Bot. Mag. t. 2560; Forb. et Hemsl. l.c. 277; Diels l.c. 560.

Ken-shan-mun (艮山門), Oct., (no. 172).

Nom. Jap. *Naginata-kōju.*

263. **Lamium album** L.; Benth. in DC. Prodr. XII. 510; Hook. f. Fl. Brit. Ind. IV. 679; Forb. et Hemsl. l.c. 302; Diels l.c. 555.

Ching-po-mun (清波門), Apr., (nos. 1000, 1022).

Nom. Jap. *Odorikosō.*

264. **L. chinense** Benth. l.c. 512; Forb. et Hemsl. l.c. 303; Diels l.c. 555.

Wu-shan (吳山), Apr., (nos. 1117, 1135).

265. **Leonurus sibiricus** L.; Forb. et Hemsl. l.c. 302; Diels l.c.

Ken-shan-mun (艮山門), Aug., (no. 509).

Nom. Jap. *Mehajiki* (益母草).

266. **Lophanthus rugosus** Fisch. et Mey; Benth. l.c. 369; Fr. Pl. David. 237; Forb. et Hemsl. l.c. 288; Diels l.c. 553.

Ken-shan-mun (艮山門), Sept., (no. 454); Oct., (nos. 436, 437, 767, 842, 843, 864).

Nom. Jap. *Kawamidori.*

267. **Mentha arvensis** L.; Benth. l.c. 171; et Fl. Hongk. 276; Fr. et Sav. Enum. Pl. Jap. I. 365; Hook. f. Fl. Brit. Ind. IV. 648; Forb. et Hemsl. l.c. 281; Diels l.c. 559.

Ku-shan (孤山), Sept., (no. 418); Yu-ching-mun (湧金門), Nov., (no. 656).

Nom. Jap. *Hakka.* (薄荷).

268. **Mosla grosseserrata** Max. in Mél. Biol. IX. 432; Fr. et Sav. Enum. Pl. Jap. I. 370 et II. 463; Forb. et Hemsl. l.c. 280.

Ken-shan-mun (艮山門), Sept., (no. 430); Oct, (no. 136); Ku-shan (孤山), Oct., (no. 402?); Tsen-tang-mun (錢塘門), Oct., (no. 511).

Nom. Jap. *Mizo-kōju.*

269. **M. hangchouensis** n. sp.

Herb. annual, attaining 5 or 6 dm., pubescent, stem 4-angled, branching, branches opposite; *leaves* ovato-oblong or sublanceolate, subacuminate, round or subcuneate at base, serrate, densely punctated, *petiole* about 8 mm. long, (lamina 2.5–3.5× .8–1.5 cm.); *raceme* attaining 6 cm., dense flowered, fl. on short pedicel; *bracts* broadly ovate or suborbicular, abruptly acuminate or cuspidate, often purplish; *calyx* piloso-pubescent, deeply 5 lobed or obscurely 2-lipped, anterior 2 lobes subulate, posterior 3 lobes subequal or the median a little smaller; *corolla* 2½ times as long as calyx, pubescent without, upper lip obtuse or emarginate, lower one 3-lobed, lobes subequal or the median a little larger; *stamens* 4, upper or outer pair longer, slightly exserted, the cells of anthers divergent, those of the inner or lower pair smaller, (I am not sure which pair of the stamens is perfect, or both are so); *ovary* 4-lobed, style a little exceeding the longer pair of stamens, parted above, the branches subulate; *nucules* globose, nitid, deeply pitted.

M. japonica Max. is easily distinguished from the present sp. by the form of leaves which is ovate, but not ovato-oblong or sublanceolate. My plant is not *M. Fordii* Max. which is described as having bracts long pectinately ciliate, this being not the case with mine. Again, it is not *M. chinensis* Max. which is described as *having raceme very short, capitate*, this being not the case with mine. However, my plant resembles *M. chinensis* in many respects, and may prove a very well developed form of it.

Ken-shan-mun (艮山門), Nov., (nos. 473, 474); Wu-lin-mun (武林門), Oct., (no. 198); Chi-ling (葛嶺), Sept., (no. 314); Oct., (nos. 195, 197); Ching-tai-mun (清泰門), Aug., (no. 319).

270. **M. punctata** Max. in Mél. Biol. IX. 436; Fr. et Sav. Enum. Pl. Jap. I. 370; Forb. et Hemsl. l c. 281; Diels l c. 560.

Ken-shan-mun (艮山門), Oct., (no. 802); Nov., (nos. 355, 357); Tai-pin-mun (太平門), Oct., (nos. 156, 850).

Nom. Jap. *Inu-kōju.*

271. **M. soochouensis** Matsuda in Bot. Mag. Tokyo 1912, 134.

Ya-feng (岳墳), Sept., (no. 460); Chi-ling (葛嶺), Nov., (nos. 200, 302).

272. **Mosla**? sp.

Tai-pin-mun (太平門), Oct., (no. 683).

The specimen is of an abnormally developed plant. Leaves are densely punctated in a manner of the species of *Mosla*.

273. **Nepeta Glechoma** Benth.; Forb. et Hemsl. l.c. 290; = *Glechoma hederacea* L.; Diels l.c. 553.

Chi-ling (葛嶺), Apr., (no. 1143); Ching-tai-mun (清泰門), Mar., (no. 914); Wu-lin-mun (武林門), Apr., (no. 921).

Nom. Jap. *Kakidōshi*.

Chi-ling specimen has subdentate leaves instead of being crenate.

274. **Perilla nankinensis** Decne; Forb. et Hemsl. l.c. 279; Diels l.c. 560.

Ken-shan-mun (艮山門), Aug., (no. 58); Oct., (no. 101); Ching-tai-mun (清泰門), Oct., (no. 52); Kong-yuan (貢院), Oct., (no. 452); Tai-pin-mun (太平門), Sept., (nos. 449, 453).

Nom. Jap. *Shiso*.

275. **Plectranthus nervosus** Hemsl. l.c. 272; Diels l.c. 562.

Ku-shan (孤山), Sept., (no. 405); Tai-pin-mun (太平門), Oct., (nos. 162, 827); Ken-shan-mun (艮山門), Oct., (no. 803).

Nucules pubescent. P. glaucocalyx Max. is closely allied, but in the Japanese specim. of this sp. the nucule is almost smooth.

276. **Plectranthus** sp.?

Ku-shan (孤山), Sept. (nos. 121, 483); Ling-yin (靈隱), Oct., (no. 411).

277. **Salvia japonica** Thunb. Fl. Jap. 22; Fr. et Sav. Enum. Pl. Jap. I. 371 (*with varieties*); Forb. et Hemsl. l.c. 284; Diels l.c. 558 (*with 5 forms*).

Chi-ling (葛嶺), Oct., (no. 496); Tai-pin-mun (太平門), Oct., (nos. 174, 757); Nov., (no. 320); Ching-tai-mun (清泰門), Oct., (no. 312).

278. **S. plebeia** R. Br.; Benth. in DC. Prodr. XII. 355, et Fl. Hongk. 277; Hook. f. Fl. Brit. Ind. IV. 655; Forb. et Hemsl. l.c. 287.

Mo-cha-bu (茅家埠), Mai., (no. 1248).

Nom. Jap. *Yukimisō*.

279. **Scutellaria indica** L.; Benth. in DC. Prodr. XII. 417, et Fl. Hongk. 278; Fr. et Sav. Enum. Pl. Jap. I. 376; Forb. et Hemsl. l.c. 295; Diels l.c. 552.

Tse-po (七堡), Mai., (no. 1251); Tsen-tang-mun (錢塘門), Apr., (no. 1225).

Nom. Jap. *Tatsunamisō*.

280. **S. rivularis** Wall.; Benth. l.c. 426; Hook. Ind. IV. 670; Wight. Ic. Pl. Ind. Or. t. 1450; Forb l.c. 296; Matsum. et Hayata, Enum. Pl. Formos. 3

Tai-pin-mun (太平門), Mai., (no. 1267); Yu-h Mai., (no. 1290).

281. **Stachys aspera** Michx.; Benth. l.c. 471 Hemsl. l.c. 300.

Yi-po (一堡), Mai., (nos. 1235, 1236).

Nom. Jap. *Inu-goma*.

LV. **Plantaginaceæ.**

282. **Plantago major** L.; Dene. in DC. Prodr. Forb. et Hemsl. in Journ. Linn. Soc. XXVI. 316; Bot. Jahrb. XXIX. 579;

var. β asiatica Dene. l.c.

Ken-shan-mun (艮山門), Nov., (no. 766); Sept., (no. 455); Ching-tai-mun (清泰門), Apr., (no. 1114).

Nom. Jap. *Ōbako* (車前).

var. β. has leaves rotund in form, obscurely dentato-sinuate on the lower margin.

(*To be continued*)

Ueber *Deutzia crenata* Th. *var. plena* Max.

(Mit 4 Text-Abbildungen.)

Von

M. Miyoshi.

In einer früheren Arbeit[1] habe ich über die gefüllten Blüten von wildwachsendem *Rhododendron brachycarpum* Don. berichtet. Wie dort angegeben, kommen gefüllte Blüten auch bei wildwachsenden Stöcken einer *Deutzia* vor, die an dem Flussufer des Daiyagawa in Nikko entlang zerstreut wächst.

Diese gefüllte *Deutzia* ist aber schon lange bekannt. Maximowicz[2] beschreibt sie unter dem Namen *D. crenata* Th. *var. plena* und gibt „Senano" (Shinano!) als eine Fundstelle an. In dem Herbar des hiesigen botanischen Instituts findet man ausser Shinano (Wadatōge, Omine) noch Hokkaido (Otaru) und andere natürliche Standorte angegeben. In Nikko ist die Pflanze nicht nur an oben genannter Stelle, sondern auch an verschiedenen anderen Oertlichkeiten zu finden. Herr N. Mo-

1) Miyoshi: Ueber das Vorkommen gefüllter Blüten bei einem wildwachsenden japanischen *Rhododendron* usw. (Jour. Coll. Sci. Imp. Univ. Tokyo. Vol. XXVII. Art. 11. 1910.)

2) Maximowicz, C. J: Revisio Hydrangeearum Asiae orientalis. (Mém. d. l'Acad. Imp. d. Sci. d. St.-Petersb. VII. Ser. Tom. X. 1867.)

Die Beschreibungen der gefüllten und einfachen Formen der *Deutzia scabra*, resp. *crenata* sind in zahlreichen, meist gärtenerischen Schriften zerstreut. Man vergl. hierüber z. B. Dippel, L.: Einige Bemerkungen zur Gattung Deutzia. (Mitt. Deutsch. Dendrol. Gesells. III. 1894. p. 5); Voss, A.: Deutzia scabra Th. (Gartenflora. XLV. 1896. p. 351.); Celakovsky, L. C.: Ueber petaloid umgebildete Staubgefässe von Philadelphus coronarius und Deutzia crenata. (Oest. Bot. Zeits. XLVIII. p. 371); Schneider, C. K.: Beitrag zur Kenntnis der Gattung Deutzia. (Mitteilungen der Deutschen Dendrologischen Gesellschaft. 1907.) In der zuletzt genannten Stelle sind verschiedene, wahrscheinlich durch Kultur entstandene Formen der *D. scabra* angegeben.

CHIZUKI, Assistent am Botanischen Garten in Nikko, fand sie in grosser Anzahl beim Dorfe Higashiogawa, jenseits des Konseiberges bei Nikko. Aus diesen und anderen Angaben ist es klar, dass unsere gefüllte *Deutzia* eine weitere Verbreitung hat, als man zuerst annahm.

Am 1. Juli d. J. bekam ich von HERRN DR. H. KOMATSU,[1] zahlreiche, blühende Zweige der gefüllten Pflanze, die er aus Nikko mitgebracht hatte. Dort wächst neben der gefüllten Pflanze auch die normale einfache ; die erstere scheint aber die letztere an Zahl zu übertreffen. Die gefüllten und einfachen Blüten finden sich stets getrennt auf besonderen Stöcken. Diese scharfe Trennung ist, wie ich in meinem oben zitierten Artikel hervorgehoben habe, auch bei *R. brachycarpum* zu sehen. Das Gefülltwerden verdankt seinen Ursprung nicht einer allmählichen Vervielfältigungstendenz, sondern kommt sozusagen plötzlich zu Stande.

Die normale einfache Blüte (Fig. a) hat 5 Blumenblätter, 10 Staubblätter, von welchen 5 länger und 5 kürzer sind, und 3, bisweilen 4 Karpelle.

a *b* *c* *d* *e*

(Nat. Gr.)

In der gefüllten Blüte (Fig. b) gibt es innerhalb der Korolle noch 2 oder 3 innere Reihen derselben, sodass die gesamte Zahl der Blumenblätter resp. der petaloiden Stamina (Fig. d. e) 15 bis 20 (oft mehr) beträgt. Die Staubblätter sind an Zahl sehr gering oder fehlen vollständig. Die Karpelle (Fig. c) bleiben ungeändert, nur ist ihre Zahl häufig verändert.

Tabellarische Zusammenfassung der Zahl der Blütenteile von mir untersuchter gefüllter Blüten : (siehe nächste Seite !)

Ausser dem Gefülltwerden zeigt die Blüte unserer Pflanze eine Farbenänderung indem die normale weisse Farbe zu einem leichten Rosa übergeht. Am häufigsten tritt die rote Farbe als breitere oder schmälere Streifen in gewissen Teilen der Blumen-

1) HERREN DR. H. KOMATSU und N. MOCHIZUKI danke ich an dieser Stelle für Beschaffung des Untersuchungsmaterials.

Untersuchte Blüten	Gesamte Zahl der Blumenblätter	Antherе tragende Blumenblätter	Normale Staubblätter	Veränderte Staubblätter	Normale Karpelle	Abortive Karpelle
1	16	3	4	0	3	0
2	15	7	0	0	3	0
3	17	7	0	0	4	1
4	13	8	0	0	4	0
5	21	3	2	0	4	1
6	17	5	1	0	3	0
7	15	7	0	1	4	0
8	16	8	0	1	3	0
9	15	6	3	0	3	0
10	15	3	0	3	0	0
11	19	3	0	2	4	0
12	21	1	0	1	5	0
13	20	4	1	0	4	0

blätter auf. Wie bei *R. brachycarpum* sieht man bei unserer *Deutzia*, dass die Merkmalsänderung einer mutierenden Pflanze in mehr als einer Richtung zum Vorschein kommt.

Es wird ferner eine interessante Aufgabe sein, die Vererblichkeit des gefüllten Merkmales experimentell zu untersuchen und auch den Grad der Veränderlichkeit durch Kulturversuche zu verstärken. Wir hoffen in Zukunft hierüber genaueres mitteilen zu können.

Unsere gefüllte Deutzia war einst unter dem Namen *Deutzia scabra* S. et Z. bekannt; oder man schliesst sie in *D. scabra* S. et Z. *var. crenata*, MAK. ein. Allein die oben beschriebenen Merkmale zeigen deutlich, dass wir sie als eine[1] besondere Varietät gelten lassen müssen, wie MAXIMOWICZ seiner Zeit mit Recht getan hat. Nur aus dem Umstande, dass der bisher angenommene Unterschied zwischen *D. scabra* und *D. crenata* zu unsicher ist,[2] um alle beide für besondere Arten zu halten oder die letztere als eine Varietät der ersteren zu denken,

1) l. c.

2) Dass die Arten und Varietäten von *Deutzia* eines gründlichen vergleichenden

wäre es richtiger, *D. crenata* mit *D. scabra* zu vereinigen. Da unter anderen das Merkmal der gezackten Blätter, worauf die früheren Autoren viel Gewicht legten, nicht eine konstante Erscheinung ist, ist es angebracht, unsere Pflanze *D. scabra* S. et Z. *var. plena* zu nennen, mit folgenden Merkmalen: Blätter elliptisch, gespitzt, am Rande meistens undeutlich gezähnt, bisweilen mehr oder weniger gezackt. Blüten gefüllt; Blumenblätter gewöhnlich 15 bis 20, oft mehr, weiss mit roten Streifen. Staubblätter meistens 1 bis 4, oft vollständig fehlend. Karpelle normal, 3–5.

Studiums bedürfen, ist schon von früheren Systematikern hervorgehoben worden. So bemerkt J. D. Hooker in seiner Beschreibung von *Deutzia discolor var. purpurascens* "The species of Deutzia are very difficult of discrimination, and have not hitherto been carefully studied." (Curtis, Botanical Magazine. III. Ser. vol. 56, Tab. 7708. 1900.) Obgleich einige ausführlichere Arbeiten (z. B. Schneider. l. c.) in neuerer Zeit erschienen sind, so wurde die Unklarheit der systematischen Stellung vieler Formen damit nicht beseitigt. Uebrigens ist es notwendig, in der Bearbeitung die wildwachsenden Formen von den durch Kultur entstandenen scharf zu unterscheiden.

De Cirsio Japonico et Coreano :

Tentamen systematis generis Cirsii praecipue in Japonia et in Corea crescentis.

auctore

T. Nakai.

Cirsium Japonicum præcipue studuebatur a Cl. C. J. Maximowicz et A. Franchet. Opus Maximowiczianum aparuit anno 1874 in volumine IX du Mélanges Biologique, continetque sequentes 20 Cirsii species et varietates Japonicas et Coreanas sub nomine ' Cnicus ' collocatas :

1. C. purpuratus.
2. C. arvensis v. setosus.
3. C. pendulus.
4. C. kamtschaticus v. ? Grayanus.
5. C. pectinellus.
6. C. dipsacolepis.
7. C. suffultus *α* pexus.
8. C. ,, *β* incomptus.
9. C. nipponicus.
10. C. spicatus.
11. C. effusus.
12. C. linearis.
13. C. Sieboldii.
14. C. Buergeri.
15. C. ,, v. Albrechtii.
16. C. Yesoensis.
17. C. japonicus *α.* typicus.
18. C. ,, v. intermedius.
19. C. ,, v. yesoensis.
20. C. ,, v. brevicaulis.

Franchet in vol. primo Enumerationis Plantarum Japonicarum tantum ejusmodi enumeravit, sed in vol. secundo descripsit nove octo species et varietates novas. ie.

1. C. comosus.
2. C. Reinii.
3. C. Hilgendorfii.
4. C. ovalifolius.
5. C. Tanakæ.
6. C. oligophyllus.
7. C. japonicus v. obvallatus.
8. C. ,, v. vulcani.

et relationem specierum clave affixa clare agnitu fecit. In Herbario Universitatis Tokyoensis multæ species adsunt quæ nullo supra citato congruerunt. Infeliciter, tamen, quidque specimen est pauperum et non discernire poteramus num species illæ sint distinctæ. Insignæ species ita solum investigebantur et paucæ novæ species a dom. T. Makino, G. Koidzumi et a me describebantur.

Plantæ Coreanæ maxime a me studuebantur. Nuper autem Mg. H. Léveillé tres species novas describebat.

Rev. Pater U. Faurie omnes collectiones Cirsii Japonici et Coreani amicissime mihi concessit, et adhuc nostris obscuræ species exinde notas venit; insuper duodecim novæ species invenebantur. Presens opus meum continet 51 species et 11 varietates Cirsii Japonici et Coreani.

Plantæ Japonicæ fere omnes sunt indigenæ. Hæ res vere insigna esse videtur, sed pappi Cirsii sunt caduci et maxime sejungunt se a seminibus affixis ante eorundem distributionem. Ita semina Cirsii ut illa alliarum Compositarum ventu haud aguntur. Fretum Coreanum et Tsugaruense, distributionem Cirsiorum seminum perfecte prohibent. Species Cirsii Japonici igitur angustas earundem regiones occupantes, ubi ipsae variavissent et increvissent.

Sique similes plantæ (e. g. C. Maackii et ejus varietates) occurunt, descendissent forsan ex ideo progenitore qui existerat in his regionibus ante Japonia a continente Asia solvit.

Tabula distributionis Cirsii Japonici et Coreani.

nomen \ locus	Nippon	Shikoku	Kiusiu	Quelpaert	Corea	Sachalin et Yeso	Manchuria	China	Dahuria	Sibiria	Kamtschatica	Europa	Liukiu
C. alpicolum	× borealis												
C. aomorense	× borealis												
C. arvense v. mite					×					×		×	
C. arvense v. setosum	× borealis				×	×	×	×	×	×	×	×	
C. bitchuense	×												
C. brevicaule													×
C. Buergeri	×												
C. Buergeri v. Albrechtii						×							
C. Buergeri v. sparsum	×												
C. chanroenicum					×								
C. comosum	×												
C. coreanum					×								×
C. diamantiacum					×								
C. dipsacolepis	×												
C. effusum	×												
C. Fauriei	×												
C. Grayanum						×							
C. Hilgendorfii	×		×										
C. incomptum	×												
C. inundatum	×												
C. japonicum typicum	×												
C. japonicum obvallatum	×												
C. kagamontanum	×												
C. kamtschaticum						× kurile					×		
C. kiusianum			×										
C. lineare			×					× ?					
C. longipes	×												
C. Maackii					×								
C. Maackii horridum		×					×						
C. Maackii intermedium	×	×	×										
C. Maackii koraiense					×								
C. Maackii vulcani	×												
C. Mamiyanum						×							
C. maritimum	×	×	×										
C. Matsumurae	×												
C. Maximowiczii						×							
C. Maximowiczii glutinosum	×												

locus / n en	Nippon	Shikoku	Kiu-siu	Quelpaert	Corea	Sachalin et Yeso	Manshuria	China	Dahuria	Sibiria	Kamtschatica	Europa	Liukiu
C. Maximowiczii nipponense	×												
C. nambuense	×												
C. Nakaianum				×	× australis								
C. n kkoense	×												
C. nipponicum	×												
C. norikurense	×												
C. oligophyllum	×												
C. ovalifolium	×												
C. pectinellum et varietas	× borealis					×							
C. pendulum	×				×	×	×		×				
C. pexus			×										
C. pseudo-pendulum	×												
C. purpuratum	×												
C. Reinii	×												
C. Rhinoceros				×									
C. segetum					×		×	×					
C. Sieboldii	×												
C. spicatum	×	×	×										
C. anakae	×												
C. Taquetii					× australis								
C. Weyrichii	×					×							
C. Wlassovianum					×		×		×				
C. yesoanum						×							
C. yesoensis						×							

Conspectus subgenerum.

1. Caput majus. Involucri squamæ usque 5–10 mm latæ reflexæ et coloratæ, exteriores margine spinulosæ, interiores integræ.
   .....Subg. I. **Erythrolæna** (Sweet) C. H. Schultz.
   Involucri squamæ 4 mm. vix latæ.....2.

2. Rhizoma repens. Corollæ tubus filiformis limbo 3–4 plo longior. Involucri squamæ extremæ intimis 4-6 plo breviores erectæ.
   ....Subg. II. **Cephalonoplos** (Neckér) Hoffm.
   Rhizoma incrassatum fusiforme v. glumosum non repens.....3.

3. Corollæ tubus filiformis limbo 3-4 plo longior. Involucri squamæ præter intimas 1-2 seriales reflexæ. Caput pendulum. .....Subg. III. **Pseudo-Eriolepis** Nakai.
Corollæ tubus limbo 1-2 plo longior. .....Subg. IV. **Chamæleon** DC.

Subgen. I. **Erythrolæna** (Sweet) C. H. Schultz. (sp. 1.)

1) **Cirsium purpuratum** (Maxim.) Matsum. Shokubutsu-meii (1895) p 83 n. 888. et Ind. Pl. Jap. III (1912) p. 642.

Cnicus purpuratus Maxim. in Mél. Biol. IV. (1874) p. 304. Fran. et Sav. Enum. Pl. Jap. I. (1875) p. 258 II. (1879) p. 413. Icon. Honzo-zufu vol. XV. fol. 13.

Nom. Jap. Fujiazami. (Iwasaki).

Hab. Nippon media: vulcano Fujiyama (Maximowicz) ibidem 22 X. 1890 n. 6661. in petrosis basi Norikura 25 VIII 1905 n. 7031, basi Zizogatake VII 1903 n. 5444 (Faurie) Fuji 23 VIII 1888 (M. Miyoshi) Nikko X. 1879 (R. Yatabe) ibidem 26 IX. 1879 (?) ibidem. VI. 1912 (T. Nakai).

Planta endemica.

Subgen. II. **Cephalonoplos** (Necker) Hoffm. (sp. 2).

1. Ramosissimus. Pappus in fructu corollam superans.....2.
Caulis simplex v. pauciramis. Pappus in fructu corollam non superans.....*C. segetum* Bunge.

2. Folia integra v. dentata margine spinulosa .....*C. arvense* (L.) Scop. var. *setosum* (Willd.) Ledeb.
Folia pinnatifida, lobis apice spinosis margine spinulosis. .....*C. arvense* (L.) Scop. var. *mite* Koch.

2) **Cirsium arvense** (L.) Scopoli Fl. Carniolica II. (1760) p. 126. Koch. Syn. Pl. Germ. et Helv. (ed. III. 1857) p. 341 et p. 748.

Serratula arvensis L. Sp. Pl p. 1149. Willd. Sp. Pl. III. (1800) p. 1646.

Cnicus arvensis (L.) G. F. Hoffmann Deutschlands Flora (ed. II. 1804) I. ii p. 130.

var **setosum** (Willd) Ledeb. Fl. Ross. II. (1844–1846) p. 735. Kom. Fl. Mansh. III. p. 749. Nakai Fl. Kor. II. p. 46.

Serratula setosa Willd l. c. p. 1645. Dietrig Gart. Lex. (1809) p. 136.

Cirsium setosum (Willd.) Marshall v. Bieberstein Fl. Taurico-Cauc. III. suppl. (1819) p. 560 DC Prodr. VI. (1837) p. 643. (excl. syn. Gmel.)

C. arvense v. *integrifolium* Koch. l. c. p. 341.

Cnicus arvensis (L.) G. F. Hofem. var. *setosus* (Willd.) Maxim. in Mél. Biol. IX. p. 303.

Nom. Jap. Ezono-Kitsune-azami. (Matsumura.)

Hab. Yeso: in agris IX. 1904 n. 6013., Sapporo 12 IX. 1883 n. 3131, Hakodate 20 VIII 1885 n. 948, Monbetsu 30 VIII 1887 n. 1019 (Faurie) Sapporo VII. 1887 (Tokubuchi) Hakodate 15 VII. 1889 (J. Matsumura) ibidem 14 VII 1878 (?) sine loco speciali (K. Itō).

Nippon: Hirosaki 1888 n. 3437. (Faurie.)

Corea: Circa Seoul V. 1906 (Y. Ōe).

Distr. var. Sibiria, Dahuria, Europa Rossia, Amur, Sachalin, China et Manhuria.

var. **mite** Koch. l. c. Ledeb. l. c.

Nom. Jap. Kōrai-kitsune-azami (Nakai).

Hab. Korea: in herbidis secus mare Chinampo IX 1906 n. 1082 (Faurie).

3) **Cirsium segetum** Bunge Enum. Pl. Chin. bor. (1831) n. 202. DC. Prodr. VI p. 643. Kom. Fl. Mansh. III. p. 847. Nakai Fl. Kor. II. p. 46.

Cnicus segetus (Bunge) Maxim. in Mél. Biol. IX. p. 383. Forbes et Hemsl. in Journ. Linn. Soc. XXIII. p. 462. Palib. Consp. Fl. Kor. I. p. 119.

Carduus segetum Fran. Pl. Dav. p. 178.

Nom. Jap. Chōsen-noazami (Yabe.) Arechi-azami. (Nakai.)

Korea: circa Seoul 20 VI. 1910 (T. Mori)) circa Pyöng-yang 21 V. 1911. 22 VI 1909. (H. Imai) Chinampo in agris (secus vias communis) VI 1901. n. 386 (Faurie). Fusan 4 VI 1904, Ouensan 7 VI 1909 (T. Nakai) Matin-ryong VII 1902 (A. Mishima). Pujuuön 8 IX 1902 (T. Uchiyama) sine loco speciali (Y. Hanabusa.)

forma **lactiflora** Nakai

Flores lactei. Cet ut in typo.

Hab. Korea : circa Pyengyang 28 V. 1911. (H. Imai.)
Distr. sp. China et Manshuria.

Subgen. III. **Pseudo-Eriolepis** Nakai subgen. nov.

Radix perennis non repens incrassata. Caulis ramosus. Caput nutans. Involucri squamæ reflexæ, extremæ intimis 2 plo breviores. Corollæ tubus elongatæ filiformis limbum 4–5 plo superans. (sp. 1.)

4) **Cirsium pendulum** Fischer in DC. Prodr. VI p. 650. Ledeb. Fl. Ross. II. p. 739. Maxim. Prim. Fl. Amur. p. 173. Regel Tent. Fl. Uss. n. 203. Korsch. Act. Hort. Petrop. XII. p. 361 Kom. Fl. Mansh. II. p. 749. Nakai Fl. Kor. II. p. 47. *Cnicus pendulus* Maxim. in Mél. Biol. IX. p. 332. Fran. et Sav. Enum. Pl. Jap. I. p. 261. II. p. 414.

Nom. Jap, Ezono-taka-azami. (Nakai.)

Hab. Yeso : Tomakomai 13 VIII 1899 (J. Matsumura.)

Circa Junsainuma VIII 1903 n. 5445 (Faurie) Moiwasan (G. Koidzumi.)

Nippon : in montibus circa Aomori 11 IX 1885 n. 1167, Shōnai 22 IX 1897 n. 169 (Faurie) in campis Shimuranohara 26 XI 1905 (G. Koidzumi.)

Korea : in Korea media IX 1901 n. 1144 (Faurie) Kang-Kai 15 IX 1910 (G. Mills) Syong-tyong 28 IX 1902. (T. Uchiyama.)

Distr. Dahuria, Amur, Ussuri et Manshuria.

Subgen. IV. **Chamæleon** DC. (Sect. II.)

Involucri squamæ extremæ intimis 2-3 plo breviores vulgo reflexæ. ..... Sect. I. **Eriolepis** DC.
Involucri squamæ extremæ intimis 3–5 plo breviores vulgo erectæ. .....Sect. II. **Onotrophe** DC.

Sect. I. **Eriolepis** DC.

Conspectus specierum et varietatum.

1. Folia ad caulem decurrentia.....2.
   Folia non decurrentia.....6.
2. Caput sub anthesin nutans.....3.
   Caput sub anthesin erectum .....5.

3. Folia ad caulem longe decurrentia.....4.
Folia breviter decurrentia, pinnatifida, lobis margine brevissime setulosa.....*C. pectinellum* A. GRAY v. *modestum* NAKAI.

4. Folia pinnata, lobis lanceolatis v. linearibus setulosis.
..... *C. pectinellus* A. GRAY *α typicum* NAKAI.
Folia pinnata, lobis linearibus setosis.....*C. Mamiyanum* KOIDZ.

5. Folia indivisa margine setulosa v. inciso-serrata. Flores purpurei. Squamæ involucri extremæ intimis duplo breviores. Caulis ramosus.
.....*C. Grayanum* (MAXIM). NAKAI.
Folia pinnatifida margine spinosa. Flores albi. Squamæ involucri omnes subæquilongæ. Caulis vulgo simplex.
.....*C. kamtschaticum* LEDEB.

6. Caput foliis involucratis numerosis suffultum.....7.
Caput foliis involucratis 1–2 v. nullis suffultum.....8.

7. Involveri squamæ non rigidæ. Folia pinnatifida. Caulis elatus robustus.....*C. pexum* (MAXIM.) NAKAI.
Involuci squamæ rigidæ. Folia indivisa v. pinnatim incisa.
.....*C. dipsacolepis* (MAXIM.) MATSUM.

8. Caput sub anthesin nutans.....9.
Caput sub anthesin erectum.....14.

9. Involucri squamæ rectæ. Folia indivisa v. pinnatifida. Pedunculi elongati.....*C. Weyrichii* MAXIM.
Involucri squamæ reflexæ.....10.

10. Folia indivisa serrata auriculato-amplexicaulia. Inflorescentia foliacea. Caput foliis involucratis 1–2 caput 2–3 plo superantibus suffultum.....*C. Matsumuræ* NAKAI.
Folia pinnatifida. Caput foliis involucratis nullis.....11.

11. Folia subtus nivea, pinnatiloba. Caulis tortuosus. Caput 2 cm diametro. Involucri squamæ reflexæ..... *C. norikurense* NAKAI.
Folia subtus glabra v. arachnoidea.....12.

12. Caulis elatus ramosus. Caput diametro 2 cm. Involucri squamæ reflexæ. Folia pinnatifida, lacinis porrectis apice spinosis.
.....*C. pseudo-pendulum* NAKAI.
Caulis elatus subsimplex v. ramosus. Caput cca 3cm diametro.
..... 13.

13. Involveri squamæ 4 mm latæ reflexæ. Folia pinnatifida, lacinis subhorizontali-patentibus apice spinosis, spinis rigidis. ..... *C. Fauriei* Nakai.
Involucri squamæ 2.5 cm non excedentes reflexæ. Folia pinnatifida, lacinis divergentibus, spinis minutis...*C. diamantiacum* Nakai.

14. Spinæ foliorum robustæ 1 cm attingentes. Involucri squamæ exteriores rigidæ spinosæ.....*C. comosum* (Fr. et Sav.) Matsum.
Spinæ foliorum 1 cm non attingentes graciles .....15.

15. Caulis scapiformis monocephalus...*C. Reinii* (Fr. et Sav.) Matsum.
Caulis polycephalus v. oligocephalus non scapiformis .....16.

16. Involucri squamæ rigidæ erectæ v. reflexæ.....17.
Involucri squamæ tenuiores .....19.

17. Involucri squamæ 2.5-3.5 mm latæ.....18.
Involucri squamæ 1-2 mm latæ non reflexæ. Folia indivisa v. pinnatifida sessilia v. brevipetiolata .....*C. inundatum* Makino.

18. Involucri squamæ subæquilongæ, omnes non spinosæ. Folia indivisa v. pinnatifida sessilia v. brevipetiolata. .....*C. dipsacolepis* (Max.) Matsum.
Involucri squamæ exteriores intimis duplo breviores et apice spinis tenuibus 2-3 mm longis terminatæ. Folia pinnatifida, lobis spinis 5-6 mm longis terminatis .....*C. Rhinoceros* (Lévl. et Vnt.) Nakai.

19. Flores longissime pedunculati. Pedunculi robusti. Inflorescentia fere efoliacea. Folia radicalia valde elongata. Caput basi excavum. .....*C. aomorense* Nakai.
Flores sessiles v. brevipedunculati v. longe-pedunculati tunc tenues. Inflorescentia foliacea v. efoliacea.....20.

20. Folia sessilia auriculato-amplexicaulia .....21.
Folia brevipetiolata v. sessilia v. semiamplexicaulia .....22.

21. Caulis crispulo-ciliatus. Caput 2 cm. diametro. Folia pinnatifida, lobis crebri-spinosis .....*C. nambuense* Nakai.
Caulis glaberrimus. Caput 1.5-2 cm diametro. Folia pinnata v. pinnatim incisa .....*C. nipponicum* (Max.) Makino v. *amplexifolium* Nakai.

22. Caput foliis involucratis manifestis foliis conformibus suffultum. Folia indivisa ovato-lanceolata v. lanceolata spinoso-serrata. Involucri squamæ angustæ subæquilongæ vix recurvæ. .....*C. alpicolum* Nakai.
Caput talis foliis non suffultum.....23.

23. Involucri squamæ vix reflexæ sed flexuosæ. Caput 2.5 cm. diametro, sessile v. brevipedunculatum. Internodii distantes. ..... *C. kiusianum* Nakai.
Involucri squamæ reflexæ ..... 24.

24. Pedunculi graciles ..... 25.
Pedunculi validiores abbreviati v. caput terminale ..... 26.

25. Caput rotundatum. Folia indivisa v. pinnatifida. ..... *C. nipponicum* (Maxim.) Makino.
Caput elliptico-rotundatum. Folia pinnatifida. ..... *C. effusum* (Maxim.) Matsum.

26. Squamæ involucri extremæ intimis non duplo breviores, spinis terminatæ. Folia anguste-pinnatifida. ..... *C. spicatum* (Maxim.) Matsum.
Squamæ involucri extremæ intimis 2-3 plo breviores ..... 27.

27. Caput sessile v. subsessile spicatim congestum. Folia inferiora basi lyrato-pinnatifida, superiora indivisa. Flores albi. ..... *C. chanrœnicum* Nakai.
Caput brevipedunculatum haud rarum racemoso-spicatove dispositum. Folia pinnatifida. Flores purpurei. ..... *C. incomptum* (Maxim.) Nakai.

Enumeratio specierum.

5) **Cirsium Grayanum** (Maxim.) Nakai.

Cnicus kamtschaticus (Ledeb.) Maxim. var. ? *Grayanus* Maxim. in Mél. Biol. IX. p. 310. Fran. et Sav. Enum. Pl. Jap. I. p. 258 II. p. 414.

Cirsium kamtschaticum Ledeb. v. *Grayanum* (Maxim.) Matsum. Shokubutsumeii (1895) n. 883. Ind. Pl. Jap. III. p. 641.

Nom. Jap. Maruba-hire azami (Matsumura.)

Hab, Yeso: Kamikawa 9 VII 1891 (K. Miyabe et Tokubuchi) Hakodate 12 VIII 1889 n. 911. ibidem VIII 1903 n. 5446 (Faurie) ibidem 10 VII 1890 (K. Miyabe et Tokubuchi) sine loco speciali (K. Itō.)

Planta endemica!

6) **Cirsium kamtschaticum** Ledeb. Fl. Ross. II. p. 736. Matsum. Ind. Pl. Jap. III p. 641.

C. kamtschaticum Ledeb. *α genuinum* Herder in Pl. Radd. III iv. p. 4. Matsum. Shokubutsumeii n. 883.

Cnicus kamtschaticus (Ledeb.) Maxim. *α. genuinus* (Herder) Maxim. in Mél. Biol. IX. p. 310. Miyabe Fl. Kurile. p. 244.

Nom. Jap. Chishima-azami (Miyabe).

Hab. Kurile, insula Shimushu. VIII. 1903 (K. Yendō.)

Distr. Kamtschatica.

7) **Cirsium pectinellum** A. Gray Pl. Jap. p. 395. Matsum. Shokubutsumeii (1895) n. 886. Ind. Pl. Jap. III. p. 642. Makino in Tokyo Bot. Mag. XVIII. p. 156.

Cnicus pectinellus (A. Gray) Maxim. in Mél. Biol. IX. p. 308. Fran. et Sav. Enum. Pl. Jap. I. p. 358. II. p. 414.

α. **typicum** Nakai. Folia ad caulem longe decurrentia.

Nom. Jap. Ezono-Sawa-azami (Makino.)

Hab. Nippon : Shōnai 12. VII 1898 n. 1904. (Faurie).

Yeso : Shibetsu 6 VII 1890 n, 5607, Riishiri 25 VII 1899 n. 3411 (Faurie.) Notoro 14 VII 1884 (?) Hadodate 21 VII 1878 (?).

Sachalin : in silvis Korsakof. VIII. 1908. n. 745 bis (Faurie)

Planta endemica !

β. **modestum** Nakai. Folia ad caulem breviter decurrentia. *C. pectinellum* et *C. Weyrichii* Koidz. Pl. sachal. pp. 123. 124.

Nom. Jap. Ezono-maazami (Makino.)

Hab. Sachalin : Chibisani VIII 1906 (G. Nakahara.)

Yeso : Sorachibuto 8 VIII 1891 (K. Miyabe) Hakodate 21 VII 1878 (?). Asahigawa VII 1911 (H. Koidzumi.)

8) **Cirsium Mamiyanum** Koidz. Pl. Sachal. p. 124. t III.

Lacinos foliorum angustos et spinas crebriores excepta cum speciei præcedenti toto congruit. Forsan varietas !

Nom. Jap, Mamiya-azami (Koidzumi.)

Hab. Sachalin : Chibisani VIII 1906 (G. Nakahara.)

Planta endemica !

9) **Cirsium Weyrichii** Maxim. Prim. Fl. Amur. (1859) p. 174. Fr. Schmidt Fl. Sachal. n. 264. Makino in Tokyo Bot. Mag. XVIII p. 299. Matsum. Ind. Pl. Jap. III. p. 643.

C. Weyrichii Maxim. v. *Grayanum* Matsum. Shokubutsumeii (1895) n. 891.

Cnicus Weyrichii Maxim. in Mél. Biol. IX. p. 310.

C. Korsakoviensis Levl. et Vnt. in Fedde Repert. (1910). p. 168.

Cirsium kamtschaticum β. Weyrichii Herder Pl. Radd. III. iv. p. 4.

Icon. Somokudzusetsu Vol XV. t. 41.

Nom. Jap. Sawa-azami (Inuma) Ezoazami (Matsumura).

Hime-miyama-azami (Makino).

Hab. Nippon: Togakushi 17 VIII 1898 n. 1911 (Faurie).

Yeso: Taisetsusan VIII 1911, Ashigawa VIII 1911, (H. Koidzumi) Jōzankei 7. VIII, 1899. (J. Matsumura) Sapporo (K, Miyabe) ibidem 20 VII 1899. (Y. Tokubuchi) sine loco speciali (K. Itō) in herbidis Kamikawa VII 1905 n. 7035, in humidis sylvarum montium Hakodate IX. 1902. n. 5142, Sorachi 12 VII 1898 n. 1905 (Faurie) Sapporo (G. Koidzumi) Makkarinupuri 4 IX 1905. (G. Koidzumi).

Sachalin: Dui et Arkai (Fr. Schmidt.) Korsakov VIII. 1908 n. 645. 746. (Faurie.)

Planta endemica!

10) **Cirsium norikurense** Nakai in Tokyo Bot. Mag. XXVI. p. 322.

Nom. Jap. Urajiro-azmi (Nakai).

Nippon: in humidis sylvarum Norikura 25 VIII 1905 n. 7032 (Faurie.)

Planta endemica!

11) **Cirsium Matsumuræ** Nakai. sp. nov.

Caulis multistriatus præter apicem floriferum plus minus araneosum glaber, apice ramosus. Folia elliptica v. ellipticolanceolata amplexicaulia, argute-serrulata, subtus pallidiora. Pedunculi foliaceus. Caput sub anthesin nutans, folio involucrato 1 caput 2–3 plo superante suffultum, globosum basi excavum v. planum. Involucri squamæ octoseriales ex ovato-lanceolatis ad lineares. Flores purpurei. Tubus corollæ pede 6 mm

longo 10 mm longus, lobis 4 mm longis linearibus. Stamina exerta. Stigmata exerta apice leviter bifida. Pappus sordide fuscens 15 mm longus.

Nom. Jap. Hakusan-azami (NAKAI)

Hab. Nippon : monte Hakusan 8 VIII 1881 (R. YATABE).

Planta endemica ! Illus. Prof. MATSUMURÆ cujus sollicitatione hoc operulum adriortus sum hanc dico.

12) **Cirsium pseudo-pendulum** NAKAI in Tokyo Bot. Mag. XXV. p. 61 (excl. syn.)

Nom. Jap. Taka-azami (Makino.)

Hab. Nippon : Aidzu VIII 1879 (R. YATABE) Bandaisan VIII 1904 (G. NAKAHARA) Nishiazumasan VIII 1911 (G. KOIDZUMI) Adzumasan (G. KOIDZUMI)

Planta endemica !

13) **Cirsium Fauriei** NAKAI in Tokyo Bot. Mag. XXVI p. 322.

Nom. Jap. Kiso-azami (NAKAI).

Hab. Nippon : in herbidis Agematsu VII 1905 n. 7034 (FAURIE) Ontakesan VIII 1910 (G. KOIDZUMI) ibidem 11 VIII 1911 n. 1220 (J. NIKAI).

Planta endemica !

14) **Cirsium diamantiacum** NAKAI nom. nov.

Cnicus diamantiacus NAKAI in Tokyo Bot. Mag. XXIII. p. 99.

Cirsium Schanterense (non TRAUTV. et MEY.) NAKAI Fl. Kor. II. p. 47.

Haec species præter involucri squamas elongatas reflexas cum *C. Schanterense* toto convenit.

Hab. Korea : monte Kumgangsan 18 VIII 1902 (T. UCHIYAMA)

Planta endemica !

15) **Cirsium comosum** (FR. et SAV.) MATSUM. Ind. Pl. Jap. III. p. 639 NAKAI in Tokyo Bot. Mag. XXVI p. 321.

Cnicus comosus FR. et SAV. Enum. Pl. Jap. II. p. 409 et 419.

Nom. Jap. Iga-azami. (Nakai.)

Hab. Nippon: Hakone 24 XII 1886, Yokosuka 25 X. 1880. (?).

Liukiu: Oshima secus litus maris VII 1900 n. 4068 (Faurie).

Planta endemica!

16) **Cirsium Reinii** (Fr. et Sav.) Matsum. Ind. Pl. Jap. II. p. 642.

Cnicus Reinii Fran. et Sav. Enum. Pl. Jap. II. p. 412.

Hab. Nippon: Idzu (Savatier.)

Planta endemica!

17) **Cirsium dipsacolepis** (Maxim.) Matsum. Shokubutsu-meii n. 881. Ind. Pl. Jap. III. p. 639.

Cnicus dipsacolepis Maxim. in Mél. Biol. IX. p. 313. Fran. et Sav. Enum. Pl. Jap. I. p. 258.

Nom. Jap. Yabu-azami (Matsumura). Mori-azami (Makino).

Hab. Nippon: Yoshizawamura prov. Kai 18 VIII 1911. Mitake 10 X. 1909. (T. Nakai). Maniotōge prov. Bitchu X. 1901 n. 27. (Z. Yoshino) Mito X. 1909. IX. 1910. (I. Ando) Hōbensan prov. Suwo 23 X. 1900 (J. Nikai) in herbidis Agematsu VII 1905 n. 7028, Miyadzu 17 X. 1901. (Faurie) Umagaeshi 26 IX. 1879 (R. Yatabe?).

Planta endemica!

18) **Cirsium inundatum** Makino in Tokyo Bot. Mag. (1905) n. 154. Matsum. Ind. Pl. Jap. III. p. 640.

Nom. Jap. Tachi-azami. (Makino.)

Hab. Bandaisan 26 VIII 1904 (G. Nakahara) Iidesan 13 VIII 1879 (?) prope Aomori X. 1900. n. 4076 (Faurie) Aidzu VIII 1879 (?) Adzumasan 28 VIII 1911 (G. Koidzumi) ad ripas fluminis Onogawa pede montis Azumasan (G. Koidzumi.)

Planta endemica!

19) **Cirsium Rhinoceros** (Levl. et Vnt.) Nakai nom. nov. *Cnicus Rhinoceros* Lévl. et Vnt. in Fedde Rep. (1910) p. 168.

Hab. in herbidis Quelpært 27. IX. 1906 (Faurie)

Planta endemica!

20) **Cirsium aomorense** Nakai sp. nov.

Radix desideratur. Caulis 1 m altus pluricostatus, apice

araneofloccosus demum sparse araneus. Folia radicalia 40 cm longa glabra pinnatifida ad petiolem decurrenti-attenuata, lobis ascendentibus leviter pinnatim incisis, margine minute spinulosis. Folia caulina inferiora sessilia. Inflorescentia fere efoliata. Caput terminali 1–3 longissime pedunculatum, foliis auguste-linearibus minutissime ciliato-dentatis involucro æquilongis 1–2 suffultum. Pedunculus nudus v. 1–2 foliolatus ubi caput axillare sessile gerens. Caput 1.5–2.5 cm latum. Involucri squamæ præter intimas 1–2 seriales reflexæ, extremæ 9–10 mm longæ apice acutæ sed non spinulosæ, intimæ 2 mm longæ apice purpurascentes. Flores purpurei. Tubus corollæ pede 7 mm longo 12 mm longus, lobis 4–5 mm longis. Antheræ exertæ. Stigmata 3–5 mm longa sub lente minutissime papillosa apice leviter bifida v. subintegra.

Nom. Jap. Aomori-azami (NAKAI).

Hab. Nippon: Aomori X. 1899 n. 3409 (FAURIE).

Planta endemica!

21) **Cirsium pexum** (MAXIM.) NAKAI nom. nov.

Cnicus suffultus MAXIM. v. *pexus* MAXIM. in Mél. Biol. IX. p. 315. Fran. et Sav. Enum. Pl. Jap. I. p. 259.

C. pexus (MAXIM.) FRAN. et SAV. Enum. Pl. Jap. II. p. 410. et 414.

Cirsium suffultum (MAXIM.) MATSUM. Ind. Pl. Jap. III. p. 642.

Nom. Jap. Tsukushi-kuruma-azami (NAKAI).

Hab. Kiusiu: Kujusan 28 VI 1899 n. 3412 (FAURIE).

Planta endemica!

22) **Cirsium nambuense** NAKAI sp. nov.

Radix incrassata. Caulis 25–50 cm altus, crispulo-ciliatus simplex v. ramosus. Folia sessilia pinnatifida, lacinis varie incisa, apice spinis 4–5 mm longis terminantia, costa et venis subtus crispulo hirtellis basi auriculato-amplexicaulia, margine minute spinulosa. Modo incisis plus minus foliis *C. ringentis* simulans. Inflorescentia foliacea. Caput terminali solitarium v. binum cca 2 cm diametro, foliis involucratis involucrum superantibus v. brevissimis 1–3 suffultum. Involucri squamæ

angustæ extremæ intimis æquilongæ usque 18 mm longæ glabræ. Flores purpurei. Tubus corollæ pede 6 mm longo 7 mm longæ, lobi 5 mm longi. Anthera exerta 5 mm longa. Stigma exertum et 3 mm longum. Pappi 1 cm longi biseriales et pinnati subfuscentes. Semina 3 mm longa 1.5 mm lata.

Nom. Jap. Nambu-takane-azami (NAKAI).

Hab. Nippon: summo montis Guwassan 28 IX 1897 n. 174 (FAURIE). Iidesan 8 VIII 1904 (G. NAKAHARA) ibidem 14. IX 1906 (G. KOIDZUMI) Iwakisan (G. KOIDZUMI).

Planta endemica!

23) **Cirsium kiusianum** NAKAI sp. nov.

Caulis valde elatus esse videtur sed in nostro specimine pars inferior deest. Inflorescentia eæ *Cirsii spicati* simillima sed capito duplo triplove majore statim dignoscenda.

Præter squamas involucri parce arachnoideas toto glabrum. Ramus multistriatus. Folia superio rambitu lanceolata sessilia. pinnatifida subtus pallidiora, lacinis basi pinnatim laciniatis v. bifidis apice spinis 5–10mm auctis. Caput axillare 2–2.5 cm diametro unicum infimum brevipeduneulatum, superior sessile, basi folio involucrato unico v. nullo suffultum, subexcavum. Involucri squamæ lineari-caudatæ, præter intimas spinescentes et leviter reflexæ. Squamæ extremæ 8–10 mm longæ basi 2 mm latæ, intimæ 17–18 mm longæ apice purpuræ 2 mm vix latæ. Flores purpurei. Tubus corollæ pede 9 mm longo 15 mm longus, lobi 4 mm longi. Anthera exerta, cauda 1 mm longa 7 mm longa. Filamenta papillosa, papillis 0.1 mm vix longis. Styli antheras superantes. Pappi biseriales pinnati 15 mm longi. Stigma 4 mm longum sub lente minutissime papillosum apice sub lente leviter bifidum.

Nom. Jap. Tsukushi-Yamaazami (NAKAI).

Hab. Kiusiu: Hikosan X. 1905 n. 304 (HAMADA).

Planta endemica!

24) **Cirsium alpicolum** NAKAI in Tokyo Bot. Mag. XXVI. p. 321.

Nom. Jap. Mine-azami (NAKAI).

Hab. Nippon : Iwakisan I.IX. 1897 n. 171. (Faurie) ibidem 24 VII 1880 (?)Gassan 20 VIII n. 53. (S. Ishidzuka). Iwakisan (G. Koidzumi). Gassan VIII 1909 (G. Koidzumi).

Planta endemica !

25) **Cirsium nipponicum** (Maxim.) Makino in Tokyo Bot. Mag. XVIII (1905). p. 155. Matsum. Ind. Pl. Jap. III. p. 641.

Cnicus nipponicus Maxim. in Mél. Biol. IX. p. 308. Fran. et Sav. Enum. Pl. Jap. I. p. 261. II. p. 414.

Icon. Somokudzusetsu XV. t. 40.

Nom. Jap. Hime-azami (Iinuma). Nambu-azami (Makino).

Hab. Nippon : Sakata 10 VIII. n. 132. (S. Ishidzuka) Kudojisan 14 VIII 1880 (?) Aomori, in silvis IX. 1902 n. 5144 : n. 5145 : X. 1899. n. 3408., Shonai 28 IX. 1897., Akita X. 1885 n. 1430, Fukuyama 19 VII 1890 n. 6650, Sendai X. 1903 n. 5447, Iidesan 31 VIII 1898 n. 1914 (Faurie) Iidesan 13 VIII 1879 (?) Aidzu 13 VIII 1879 (?) Ozenuma 19 VIII 1904, Iidesan 12 VIII 1907 (G. Nakahara) Hakkodasan VIII 1912 (T. Nakai).

var. **amplexifolium** Nakai in Tokyo Bot. Mag. XXVI p. 323.

Nom. Jap. Dakiba-hime-azami (Nakai).

Hab. Iwatesan 1 VIII 1903, 25 VI 1907 (G. Nakahara) Hachinohe 10 VIII 1898 n. 1912 (Faurie) Adzumasan (G. Koidzumi) Sasano circa Yonezawa (G. Koidzumi) Iwatesan (G. Koidzumi) Asahidake VIII 1907 (G. Koidzumi) Gassan VIII 1909 (G. Koidzumi).

Plantæ endemicæ !

26) **Cirsium spicatum** (Maxim). Matsum. Shokubutsumeii n. 889. Ind. Pl. Jap. III. p. 642 p. p.

Cnicus spicatus Maxim. Mél. Biol. IX. p. 318 Fran. et Sav. Enum. Pl. Jap. I. p. 259. II. p. 414.

Icon. Somokudzusetsu Vol. XV. t. 36.

Nom. Jap. Yama-azami v. Oni-azami (Iinuma).

Hab. Kiusiu : Nagayama (Maximówicz).

Shikoku : insula Shōdoshima (T. Hirama).

Nippon : Ontakesan VIII 1910 (G. Koidzumi) Shiranesan 30 IX. 1879 (?) ibidem. VI 1912 (T. Nakai).

Planta endemica !

27) **Cirsium effusum** (Maxim.) Matsum. Ind. Pl. Jap. III. p. 639.

Cnicus effusus Maxim. in Mél. Biol. IX. p. 316. Fran. et Sav. Enum. Pl. Jap. I. p. 259. II. p. 415.

Nom. Jap. Hosoeno-azami (Nakai).

Hab. Nippon: Ontakesan VIII 1910 (G. Koidzumi) Komaganemura prov. Shinano 15 VIII 1911 n. 2222 (J. Nikai).

Planta endemica!

28) **Cirsium chanroenicum** Nakai nom. nov.

Cnicus chanroenicus Nakai in Tokyo Bot. Mag. XXIII. p. 187.

Cirsium Buergeri Miq. v. *chanroenicum* Nakai Fl. Kor. II. p. 47.

A *C. Buergeri* involucri squamis elongatis reflexis et foliorum forma differt.

Hab. Corea: monte Chanryöng IX. 1902. (T. Uchiyama)

Planta endemica!

29) **Cirsium incomptum** (Maxim). Nakai nom. nov.

Cnicus suffultus v. *incomptus* Maxim. in Mél. Biol. IX. p. 316. Fran. et Sav. Enum. Pl. Jap. I. p. 259.

C. incomptus (Max.) Fran. et Sav. Enum. Pl. Jap. II. p. 410 et p. 414.

Cirsium suffultum v. *incomptum* (Maxim.) Matsum. Ind. Pl. Jap. II. p. 642.

C. spicatum (Max.) Matsum. Ind. Pl. Jap. III. p. 642. p. p.

Icon. Honzozufu Vol. XV fol. 10–11.

Nom. Jap. Taiazami v. Maazami (Iwasaki).

Hab. Nippon: circa Tokyo 26 1879, 13 X 1879. (?) Dōkanyama IX. 1912, Horto Botanico cult. et spont. (T. Nakai). Tenge prov. Suwo 23 X. 1900. (J. Nikai) Kawachi X. (T. Tada) Omidani prov. Musashi 30 IX. 1878 (?) Circa Tokyo (G. Koidzumi) Circa Matsudo 14 X. 1905 (G. Koidzumi) Nishiazumasan VIII 1911 (G. Koidzumi).

Planta endemica!

Sect. II. **Onotrophe** DC.

Conspectus specierum et varietatum.

1. Folia indivisa margine spinuloso-ciliata. Radix glumosa.....2.
   Folia indivisa v. pinnatifida. Radix fusiformis .....5.
2. Folia linearia v. lanceolata v. ovato-lanceolata.....3.
   Folia ovata .....4.
3. Folia auguste-lanceolata v. linearia subtus glabra v. nivea supra glaberrima..... *C. lineare* (Thunb.) Schultz Bip.
   Folia lineari-lanceolata v. ovato-lanceolata subtus glabra v. nivea supra vulgo ciliato-scabra interdum glabrescentia. .....*C. Wlassovianum* Fischer
4. Involucri squamæ apice reflexæ. Caulis elatus ramosus. Folia subtus glabra .....*C. coreanum* Nakai.
   Involucri squamæ non reflexæ. Caulis simplex monocephalus. Folia radicalia longissime petiolata. Folia omnia utrinque ciliato-scabra .....*C. Taquetii* (Lévl. et Vnt.) Nakai.
5. Caput basi eximie turbinata spicatim dispositum. ..... *C. Sieboldii* Miq.
   Caput basi rotundatum v. excavum .....6.
6. Folia indivisa .....7.
   Folia pinnatifida.....9.
7. Squamæ præter exteriores fusco olivaceæ, lanceolatæ, in appendice lineari constrictæ, capitula spicata. ..... *C. ovalifolium* (Fr. et Sav.) Matsum.
   Squamæ lanceolatæ deltoideæ. Caulis monocephalus.....8.
8. Folia caulina basi lata amplexicaulia. ..... *C. oligocephalum* (Fr. Sav.) Matsum.
   Folia caulina basi acuta haud amplexicaulia. Planta bene evoluta ramosa.....*C. Tanakæ* (Fr. t Sav.) Matsum.
9. Caput minus, ovoideum spicatim dispositum (in varietate non spicatum) .....10.
   Caput ovatum v. rotundatum majus v. minus.....11.
10. Folia pinnatim incisa. Involucri squamæ apice spinescentes. ..... *C. Buergerii* Miq.
    Folia grosse-spinoso-dentata. Involucri squamæ vix spinescentes. .....*C. Buergeri* v. *Albrechtii* (Max.) Nakai.
11. Caput sub anthesin nutans .....12.
    Caput sub anthesin erectus .....14.

12. Caulis scapiformis. Pedunculi elongati.
.....*C. Higlendorfii* (Fr. et Sav.) Makino.
Caulis elatus ramosus .....13.

13. Caput foliis involucratis numerosis obvallatum.
.....*C. yesoense* (Maxim.) Nakai.
Caput minus, non involucratum.....*C. kagamontanum* Nakai.

14. Caulis hirsutus v. barbatus, simulque araneus v. glabrescens ...15.
Caulis tantum araneus ie. ciliis tenuissimis dense vestitus.....22.

15. Involucri squamæ apice v. fere toto glutinosæ.....16.
Involucri squamæ non glutinosæ .....20.

16. Folia indivisa lanceolato-linearia v. lineari-lanceolata margine argute v. ciliato-serrulata. Caulis elatus vulgo 2 m. altus. Caput minus ovoideum basi rotundatum. Pedunculi tenues.
..... *C. bitchuense* Nakai.
Folia pinnatifida. Caulis 1 m rarius excedens robustus. Caput majus rotundatum basi inflatum v. excavum v. rotundatum.....17.

17. Folia lobis spinis validis 7–10 mm longis terminatis. Involucri squamæ exteriores spinosæ. Caulis nanus.
.....*C. Maackii* Maxim. v. *horridum* Nakai.
Folia lobis spinis tenuibus 5 mm brevioribus terminatis.....18.

18. Folia proxime disposita, lobis reflexis eximie spinulosis. Caulis simplex v. pauciramis. Planta montana.
.....*C. Maackii* Maxim. v. *vulcani* (Fr. et Sav). Nakai.
Folia sparsius disposita..... .....19.

19. Planta Coreana. Caulis robustus. Caput majus vulgo 2–3 cm. diametro, basi excavum. Involucri squamæ eximie glutinosæ.
..... *C. Maackii* Maxim.
Planta Japonica. Caulis robustus v. gracilius. Caput 1.5–2 cm. diametro, basi rotundatum v. leviter excavum. Involucri squamæ plus minus glutinosæ.
.....*C. Maackii* Maxim. v. *intermedium* (Maxim.) Nakai.

20. Planta littoralis. Caulis nanus..... .....21.
Planta agricola v. campestris v. monticola. Caulis elatus ramosus.
.....*C. yesoanum* Nakai.

21. Caulis dense hirsutus. Folia densius spinulosa. Involucri squamæ 2.5–3 mm latæ .....*C. brevicaule* A. Gray.
Caulis sparse hirsutus. Folia sparse spinosa. Involucri squamæ 3–4 mm latæ..... .....*C. maritimum* Makino.

22. Caulis scapiformis monocephalus, foliis caulinis præter infimum omnia linearia minima ..... *C. longipes* Nakai.
Caulis præter inflorescentiam foliaceus ..... 23.

23. Caput minus 1–1.5 cm diametro ..... 24.
Caput majus 2.5–3.5 cm diametro ..... 27.

24. Involucri squamæ glutinosæ. Caulis simplex v. pauciramis elongatus. Folia pinnatifida subtus aranea.
..... *C. Nakaianum* (Lévl. et Vnt.) Nakai.
Involucri squamæ non glutinosæ ..... 25.

25. Folia radicalia sub anthesin emarcida. Pedunculi tenues diametro 2 mm haud excedentes. Caulis vulgo elatus.
..... *C. Buergeri* Miq. v. *sparsum* Nakai.
Folia radicalia sub anthesin manent. Pedunculi robusti diametro 3 mm excedentes ..... 26.

26. Caput foliis involucratis 1–2 v. nullo suffultum.
..... *C. japonicum* (Thunb.) DC.
Caput foliis involucratis numerosis suffultum.
..... *C. japonicum* (Thunb.) DC. v. *obvallatum* (Fr. et Sav.) Nakai.

27. Folia inciso pinnatifida, lacinis linearibus spinis validioribus terminatis.
..... *C. nikkoense* Nakai.
Folia pinnatifida v. pinnatim incisa. Spini tenues ..... 28.

28. Folia pinnatifida, lacinis pinnatim incisis.
..... *C. Maximowiczii* Nakai.
Folia pinnatim incisa longe caudato-acuminata ..... 29.

29. Involucri squamæ non glutinosæ.
..... *C. Maximowiczii* v. *nipponense* Nakai.
Involucri squamæ glutinosæ.
..... *C. Maximowiczii* v. *glutinosum* Nakai.

Enumeratio specierum.

30) **Cirsium linear**e (Thunb.) Schulz. in Linnæa XIX. p. 335. Miq. Prol. Fl. Jap. p. 116. Matsum. in Shokubutsumeii (1895) p. 82. Ind. Pl. Jap. III. p. 641.

Carduus linearis Thunb. Fl. Jap. p. 305.

Cnicus linearis (Thunb.) Benth. in Benth. Hook. Gen. Pl. II. p. 468. Maxim. in Mél. Biol. IX. p. 330. Fran. et Sav. Enum. Pl. Jap. I. p. 261. II. p. 44.

Spanioptilon lineare (Thunb.) Lessing Syn. Comp. p. 10.

DC. Prodr. VI. p. 621. Sieb. et Zucc. Fl. Jap. Fam. Nat. II. p. 192.

Nom. Jap. Yanagi-azami (Matsumura).

Hab. Kiusiu: Hikosan 27 X 1902. (?). Yeu Bung. IX. 1880. (?) Hizen X. 1909. (T. Hirostu). sine loco speciali (Hamada).

Planta endemica ?

31) **Cirsium Wlassovianum** Fischer in litt. ex DC Prodr. VI. p. 653 Ledeb. Fl. Ross. II. p. 741. Maxim. Prim. Fl. Amur. p. 175. Regel Tent. Fl. Uss. n. 226 Kom. Fl. Mansh. III. p. 753. Nakai Fl. Kor. II. p. 48.

C. Vlassovianum α. genuinum Herder Pl. Radd. III. iv. p. 8.

C. serratuloides (non DC.) Korsch. in Act. Hort. Petrop. XII. p. 360.

Cnicus Vlassovianum (Fischer) Maxim. in Mél. Biol. IX. p. 329. Hemsl. in Journ. Linn. Soc. XXIII. p. 492.

Hab. Corea: Peukhansan 14 X 1900, Namsan 10 X 1900, Tsuhyoeng 27 IX 1902, Inchon 31 X. 1900 (T. Uchiyama) in collibus Chemulpo 28 IX, 1901 n. 385, Fusan X. 1906. n. 1145., in montibus Coreæ mediæ 3 IX 1901 n. 369, in agris Chinampo 13 IX. 1901 n. 376 (Faurie) Pyengyang 9 X. 1911, Muranbon 26 IX 1909 (H. Imai) Sairinka 10 IX 1907 (K. Hatta).

Distr. Dahuria, Amur et Manshuria.

var. **bracteatum** Ledeb. Fl. Ross. II. p. 741. Herder in Pl. Radd. III. iv. p. 9.

Hab. Corea: in monte Namsan 25 IX 1901 n. 390 (Faurie).

Distr. Dahuria.

32) **Cirsium coreanum** Nakai. sp. nov.

Caulis ramosissimus ambitu sphæroidalis, glaber multistriatus. Folia ovata v. late-ovata acuta v. acuminata basi in petiolem leviter alatum cuspidata, margine spinulosa ciliata. Caput ovoideum sessile v. breviter pedunculatum. Squamæ involucri ad spinum acuminatæ reflexæ apice glutinosæ margine sub lente minute serrulatæ. Corollæ tubus pede 5.5–6 mm. longo 9 mm longus, lobi 4 mm longi. Anthera exerta. Stigma 3 mm longum apice leviter bilobum.

Hab. Corea: in montibus 3 IX 1901 n. 369 (Faurie).
Planta endemica !

33) **Cirsium Taquetii** (Lévl. et Vnt.) Nakai nom. nov.
Cnicus Taquetii Lévl. et Vnt. in Fedde Rep. (1910) p. 168.
Hab. Corea : in herbidis Moktpyang 22 VIII 1908 (Taquet) Mokchang 9 XI. 1900 (T. Uchiyama).
Planta endemica !

34) **Cirsium Sieboldii** Miq. Prol. Fl. Jap. p. 116. Matsum. Ind. Pl. Jap. III. p. 642.
Cnicus Sieboldii Maxim. in Mél. Biol. IX. p. 321. Fran. et Sav. Enum. Pl. Jap. I. p. 259. II. p. 415.
Hab. Kiusiu : Nagayama.
Planta endemica !

35) **Cirsium Buergeri** Miq. Prol. Fl. Jap. p. 117. Makino in Tokyo Bot. Mag. XXIII. p. 299. Matsum. Ind. Pl. Jap. III. p. 631.
Cnicus Buergeri (Miq.) Maxim. in Mél. Biol. IX. p. 319. Fran. et Sav. Enum. Pl. Jap. I. p. 260. II. p. 414.
Cirsium spicatum Matsum. Ind. Pl. Jap. III. p. 642. p. p.
Nom. Jap. Hime-Yama-azami (Makino.)
Hab. Nippon : in herbidis Agematsu IX 1905 n. 7030 Amagisan X 1912. (Faurie) Mitake 10 IX. 1909, 18 X. 1911, Takao X. 1912 (T. Nakai) Kiyozumi X. 1912 (B. Hayata).
var. **sparsum** Nakai var. nov.
Inflorescentia non spicata. Pedunculi graciles. Cetera toto cum typo congruerunt.
Nom. Jap. Shonai-azami.
Hab. Nippon : Shonai 18 IX 1897. n. 175 (Faurie).
var. **Albrechtii** (Maxim.) Nakai in Tokyo Bot. Mag. XXVI. p. 322.
Cnicus Buergeri v. *Albrechtii* Maxim. in Mél. Biol. IX. 320.
Nom. Jap. Ezo-Yama-azami (Nakai).
Hab. Yeso : in herbidis Nayoro IX 1904 n. 6010 (Faurie).
Plantæ endemicæ !

36) **Cirsium Hilgendorfii** (Fran. et Sav.) Makino in Tokyo Bot. Mag. XVIII p. 299. Matsum. Ind. Pl. Jap. III. p. 640.

Cnicus Hilgendorfii Er. et Sav. Enum. Pl. Jap. II. p. 410. et p. 414.

Icones : Iinuma Somokudzusetsu. XV. t. 42., Honzozufu Vol. XV. fol. 13. verso.

Nom. Jap. Sawa-azami (Iwasaki) Maazami (Iinuma) Kiseru-azami (Makino).

Hab. Nippon : Bandaisan 13 VIII 1879 (?) Wakamatsu 4 VIII 1898 (Faurie) Nakayamamura prov. Nagato 28 IX. 1898 (J. Nikai) Mito IX 1911 (I. Ando) Mikawa 29 X. 1894 (Makino) Maniotōge prov. Bitchu X. 1901. n. 27 (Z. Yoshino).

Kiusiu : Toyotsu X. 1906. (Hamada).

Planta endemica !

37) **Cirsium yesoense** (Maxim.) Nakai. (non Makino).

Cnicus yesoensis Maxim. in Mél. Biol. IX. p. 328. Fran. et Sav. Enum. Pl. Jap. I. p. 261. II. p. 415.

Hab. Yeso : Hakodate (Albrecht).

Planta endemica !

38) **Cirsium bitchuense** Nakai sp. nov.

Caulis elatus 2 mm altus adpresse-araneus demum glabrescens. Ramus gracilis. Folia sessilia semiamplexicaulia longe linearilanceolata v. linearia (5 : 10 cm. 1.5 : 10 cm) margine argute-spinuloso-serrata subtus pallidiora. Inflorescentia paniculata. Pednuculi graciles, bracteis minimis 1–5 aucti. Caput minus, 1 cm diametro. Involucri squamæ extremæ 2–3 mm longæ ovato-acutissimæ, intimæ lineariæ 12–13 mm longæ, omnes apice eximie glutinosæ. Corolla purpurea, tubo cum pede 6 mm longo 12–13 mm longo, lobis 3 mm longis. Stamina exerta. Stigma 3.5 mm longum sub lente leviter bifidum. Pappus sordide-albus 1 mm longus biseriales. Semina compressa obtuse quadrangularia obovato-oblonga 4 mm longa 2.5 mm lata.

Nom. Jap. Bitchu-azami (Nakai)

Hab. Nippon : Kawase prov. Bitchu 19 X. 1912 (Z. Yoshino),

Planta endemica !

39) **Cirsium kagamontanum** Nakai sp. nov.

C. Schanterense Nakai in Tokyo Bot. Mag. XXV. p. 59.

Affine *C. Schanterense* sed exquo differt capite multo minore caule elatiore, pedunculo gracile et ramoso.

Caulis ramosus, partes sub caput araneas exceptus glabrescens. Folia elongata grosse-pinnatifida, lobis apice spinulosis sessilia ad basin attenuata semiamplexicaulia, subtus pallidiora. Pedunculi graciles araneus. Caput nutans v. rarius erectum minus circ. 1–1.5 cm diametro ovatum v. rotundatum. Involucri squamæ brevi-apiculatæ haud reflexæ, extremæ 2–3 mm longæ lanceolatæ, intimæ 13–15 mm longæ lineares. Corolla purpurea. Tubus corollæ cum pede 6 mm longo 11 mm longus, lobi 4 mm longi. Stigma 3 mm longum leviter recurvum. Pappus sordide albus tubum corollæ paulo superans.

Nom. Jap. Kaga-noazami (Nakai).

Hab. Nippon: Tanitoge prov. Kaga 18 VIII. 1909. (J. Nikai) Adzumasan (G. Koidzumi).

Planta endemica!

40) **Cirsium Maackii** Maxim. Prim. Fl, Amur. p. 172. Trautv. in Act. Hort. Petrop. VIII. p. 503. Kom. Fl. Mansh. III. p. 750. Nakai Fl. Kor. II. p. 47.

C. littorale v. *ussuriense* Regel Tent. Fl. Uss. n. 294. Herder Pl. Radd. III. iv. p. 5.

Cnicus japonicus v. *Maackii* Maxim. in Mél. Biol. IX. p. 326. Palib. Consp. Fl. Kor. I. p. 119.

Nom. Jap. Kara-noazami. (Nakai)

Hab. Corea: Ouensan 9 VI 1909, Syongzin 18 VI 1909 (T. Nakai) Fusan 17 XI 1900, Nankansan 2 VIII 1902 (T. Uchiyama). sine loco speciali (Y. Hanabusa) Pyeng-yang 28 V 1911 (H. Imai) Ouensan VII 1906 n. 1091 (Faurie) Hakuhekisan 14 VI 1912 (T. Ishidoya)

var. **koraiense** Nakai in Tokyo Bot. Mag. XXIII p. 100 Fl. Kor. II. p. 47.

Hab. Corea.

var. **horridum** Nakai nom. nov.

C. japonicum subsp. *genuinum* δ. *horridum* Nakai in Tokyo Bot. Mag. XXV. p. 60.

Icon. Icon. Pl. Koish. t. 20.

Nom. Jap. Toge-azami (Nakai).

Hab. Shikoku : in summo montis Tsurugisan 13 VIII 1906 (J. Nikai)

var. **intermedium** (Maxim.) Nakai nom. nov.

Cnicus japonicus v. *intermedius* Maxim. in Mél. Biol. IX p. 325.

Cirsium japonicum subsp. *genuinum a. typicum* Nakai in Tokyo Bot. Mag. XXV. p. 59.

Icones Jap. : Somokudzusetsu vol. XV t 35. Honzozufu vol. XV fol. 12 verso.

Nom. Jap. Koazami v. Noazami (Iwasaki) Noazami (Iinuma).

Hab. Nippon : Narutaki 1 VII 1905 n. 152. (T. Goya) circa Nuruyu 31 VII 1887 n. 792, Hichinohe 29 VII 1886 n. 781 (Faurie) Nikko 28 VII 1877. (?) Aidzu VIII 1879 (?) Ontake 27 VII 1880 (?) Asamayama 20 VII 1880 (?) Yatsugatake VII 1905 (B. Hayata) Kasugayama 15 VII 1883, Tokiwano 29 VII 1880, Kumano 25 VII 1883, Tateyama 24 VII 1884. Ominesan VII 1884 (?) Shinobuyama 27 VI 1904 (G. Nakahara) Ontakesan VIII 1910 (G. Koidzumi) Hikami prov. Suwo 26 V. 1895 (J. Nikai) Maihara XI 1894 (T. Makino) Adzumasan (G. Koidzumi) Iwakisan, (G. Koidzumi) Circa Yonezawa (G. Koidzumi) Circa Tokyo (G. Koidzumi)

Shikoku : Yahazuyama VIII 1888, Ishizuchisan 9 VIII 1888 (?)

Kiusiu : Nishidake 5 VIII 1882, Nagasaki 14 V. 1879, Iwadake 17 VII 1882, Kirishima VIII 1882.

var. **vulcani** (Fr. et Sav.) Nakai nom. nov.

Cnicus japonicus v. *vulcani* Fr. et Sav. Enum. Pl. Jap. II. p. 412. p. 415.

Nom. Jap. Miyakoazami (Matsumura).

Hab. Nippon : Ibukiyama VIII 1881, Hakusan VIII 1881 (R. Yatabe et J. Matsumura)

Distr. typicæ : Manshuria et Amur. Varietates sunt plantæ endemicæ.

41) **Cirsium yesoanum** Nakai sp. nov.

C. japonicum DC. subsp. yesoense Maxim. *a. typicum* Nakai Tokyo Bot. Mag. XXV. p. 6. pp.

Affinitas *Cirsii Maximowicziani*, sed differt caule graciliore et barbulato.

Caulis elatus multistriatus crispulo-hirsutus, superior araneus. Folia amplexicaulia subtus pallidiora sparse arenea pinnatifida, lobis bifidis v. pinnatifidis v. trifidis apice spinis 2–3 mm longis terminatis, margine minute ciliatis. Pedunculi foliis parvis aucti. Caput erectum rotundatum basi excavum. Involucri squamæ 7 seriales lanceolato-lineares arachnoideæ acuminatæ, extremæ 5–6 mm longæ, intimæ 17–18 mm longæ. Flores purpurei. Corollæ tubus pede 8 mm longo 14 mm longus, lobi 4.5–5 mm longi Stigma 3.5 mm longum apice leviter bifidum.

Nom. Jap. Ezono-noazami. (NAKAI).

Hab. Yeso : Tomakomai 3 VIII 1899 (J. MATSUMURA).

Planta endemica !

42) **Cirsium ovalifolium** (FRAN. et SAV.) MATSUM. Ind. Pl. Jap. III. p. 641.

Cnicus ovalifolius FRAN. et SAV. Enum. Pl. Jap. II. p. 412.

Hab. Nippon : Nikko.

Planta endemica !

43) **Cirsium Tanakæ** (FR. et SAV.) MATSUM. Shokubutsumeii n. 890. Ind. Pl. Jap. III. p. 642.

Cnicus Tanakæ FR. et SAV. Enum. Pl. Jap. II. p. 411.

Nom. Jap. Gobō-azami (MATSUMURA).

Hab. Nippon : monte Myogisan X. 1912. (FAURIE)

Planta endemica !

44) **Cirsium oligophyllum** (FR. et SAV). MATSUM. Shokubutsumeii n. 885 Ind. Pl. Jap. III. p. 641.

Cnicus oligophyllus FR. et SAV. Enum. Pl. Jap. II. p. 412.

Nom. Jap. Hitotsuba-azami (MATSUMURA).

Hab. Nippon.

Planta endemica !

45) **Cirsium brevicaule** A. GRAY Bot. Jap. p. 396. MAKINO in Tokyo Bot. Mag. XXIV p. 251. MATSUM. Ind. Pl. Jap. III. p. 639 p. p. (excl. syn. *C. japonici*). MATSUM. et HAYATA Enum. Pl. Form. p. 211.

Cnicus japonicus v. *brevicaulis* (A. Gray) Maxim. in Mél. Biol. IX. p. 324. Fran. et Sav. Enum. Pl. Jap. I. p. 261. II. p. 419.

Nom. Jap. Shima-azami (Makino).

Hab. Liukiu: Shuri 21 IX 1899 (K. Miyake) Oshima VII 1900 n. 4069 (Faurie).

Distr. Formosa.

46) **Cirsium maritimum** Makino in Tokyo Bot. Mag. XXIV. p. 249.

C. brevicaule (non *A. Gray*). Matsum. Ind. Pl. Jap. III. p. 639 (excl. Pl. Formosa et syn. *C. japonici*).

Icones: Honzo-zufu vol. XV. fol. 11–12. Somokudusetsu vol. XV. t. 38.

Nom. Jap. Hama-azami v. Hamagobo v. gobōazami (Iinuma) Tōsiazami (Iwasaki).

Hab. Nippon: Wakanoura 29 XII p. 1877 (?).

Shikoku: Awa 25 VIII 1906 n. 1651 (J. Nikai).

Kiusiu: Osumi (T. Makino).

Planta endemica!

47) **Cirsium longipes** Nakai sp. nov.

Species verosimiliter *C. Hilgendorfio* conspecifica, sed capito semper erecto nec nutante differt.

Radix incrassata. Caulis scapiformis monocephalus multistriatus primo araneus demum glabrescens. Folia fere omnia radicalia cc. 10 cm longa pinnatifida longe alato-petiolata. Folia superiora linearia 1–3 mm longa integra v. paucidentata. Caput erectum ellipticum. Involucri squamæ 6–7 seriales ex ovato-lanceolato ad lineares, glabræ acutissimæ, extremæ 3 mm longæ, intimæ 18 mm longæ. Flores purpurei. Corollæ tubus pede 7 mm longo 12 mm longus, lobi 4 mm longi. Stigma 4 mm longum apice leviter bilobum.

Nom. Jap. Asinaga-azami (Nakai).

Hab. Nippon, in monte Mayasan 15 X. 1901 n. 4971 (Faurie).

Planta endemica!

48) **Cirsium Nakaianum** (Levl. et Vnt.) Nakai.

Cnicus Nakaianus Lévl. et Vnt. in Fedde Rep. (1910) p. 168.

Hab Korea: in agris Quelpaert X. 1907 n. 220 (Taquet). in herbidis Fusan 4 X. 1901 n. 387 (Faurie).

Planta endemica!

49) **Cirsium japonicum** (Thunb.) DC. Prodr. VI p. 640. Sieb. et Zucc. Fl. Jap. Fam. Nat. II. 192? Miq. Prol. Fl. Jap. p. p. 116, 362? A. Gray Bot. Jap. 395?

Carduus japonicus Thunb. Fl. Jap. p. 306.

α. **typicum** (Maxim.) Nakai.

Cnicus japonicus α. typicus Maxim. in Mél. Biol. IX. p. 323. Fran. et Sav. Enum. Pl. Jap. II. p. 415.

Cirsium japonicum subsp. *genuinum α. typicum* Nakai in Tokyo Bot. Mag. XXV. p. 59. pp.

Nom. Jap. Nohara-azami (Makino).

Hab. Nippon: Asakawa X. 1912 (T. Nakai). Mito X 1911 (I. Ando).

β. **obvallatum** (Fr. et Sav). Nakai nom. nov.

Cnicus japonicus v. *obvallatum* Fr. et Sav. Enum. Pl. Jap. II. p. 412.

Cnicus japonicus v. *involucratum* Fr. et Sav. l. c. p. 415.

Nom. Jap. Kuruma-azami. (Matsumura).

Hab. Nippon: Mito X. 1911 (I. Ando). Asakawa X 1912 (T. Nakai).

Plantæ endemicæ!

50) **Cirsium nikkoense** Nakai Matsum. et Koidz. Syn. Comp. Nikk. in Tokyo Bot. Mag. XXIV. p. 163. Matsum. Ind. Pl. Jap. III. p. 641.

Icon.: Icon. Pl. Koishik. t. 23.

Nom. Jap. Nikko-azami. (Matsumura).

Hab. Nippon: circa Aomori 25 VII 1880. (?). Nikko VIII 1877. (?). Wadatoge 23 VII 1880 (?).

Planta endemica!

51) **Cirsium Maximowiczii** Nakai nom. nov.

Cnicus japonicus v. *yesoensis* Maxim. in Mél. Biol. IX.

p. 324. Fr. et Sav. Enum. Pl. Jap. I. p. 261. II. p. 415.

Cirsium yesoense (Max.) Makino in Tokyo Bot. Mag. XVIII. p. 155. Matsum. Ind. Pl. Jap. III. p. 643. (excl. syn.)

C. japonicum subsp. *yesoense* Nakai in Tokyo Bot. Mag. XXV. p. 60.

Icon.: Icon. Pl. Koishik. t. 21.

Nom. Jap. Onoazami (Matsumura) Sawaazami (Makino).

Hab. Yeso: Monbetsu VIII 1884. (Faurie).

Nippon: Aomori 30 VIII 1880 (?) ibidem IX. 1901. (N. Kinashi) in herbidis Shiogama X. 1905 n. 7033. (Faurie).

var. **nipponense** Nakai in Tokyo Bot. Mag. XXV, p. 60.

Icon.: Icon. Pl. Koishik. t. 22.

Nom. Jap. Oniazami (Nakai). Oni-noazami (Nakai),

Hab. Nippon: Fukushima 19 VII 1904 (G. Nakahara) Togakushi 11 VII 1884 (?). Idesan 13 VIII 1879 (?). Adzumasan (G. Koidzumi)

var. **glutinosum** Nakai.

Caulis bene evolutus 3-4 cm diametro. Involucri squamæ glutinosæ.

Hab, Nippon: Azumasan 12 VII 1904 (G. Nakahara) in herbidis Ubayu VII 1904 n. 6011 (Faurie) Chokaisan 9 VIII 1904 (G. Nakahara) Naderasan VII 1911 (G. Koidzumi). Iwakisan (G. Koidzumi) Kurikoyama (G. Koidzumi)

Plantæ endemicæ!

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Observations on the Flora of Japan.

(*Continued from p. 294.*)

By

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Marattia ternatea de Vriese, Monogr. Marat. (1853), p. 4; Christensen, Ind. Fil. (1906), p. 415; Copeland in Philip. Journ. Sc. IV. (1909), p. 11, tab. 7.

Pinnæ oblong, about 4 decim. long and nearly 2½ decim. broad in my specimen; rachis slender, terete, very narrowly winged above, very thinly scaly (scales linear, fulvous, fugacious), incrassated at the base. Pinnules numerous, rather closely arranged, alternate, but nearly opposite below, patent or erect-patent, very shortly petiolulate, narrowly lanceolate, acuminate, obliquely rounded at the base, subrevolute and crenulate on subcartilaginous thick margin, but conspicuously and more sharply serrate towards the top, attaining about 14 cm. long, 1¾ cm. broad, coriaceous, green and glabrous above, paler and covered with very minute pale prominent powdery dots and moreover thinly dispersed with ferruginous irregularly laciniate thin scales which are larger and denser on the midrib; midrib slender, prominent on both surfaces but more so beneath; veins subhorizontally patent, conspicuous, simple or sometimes bifurcate at base, with broad-linear area between the veins. Sori (Synangia) in single row on each side on pinnules, comparatively large, numerous, closely placed each other, distant from the margin, glabrous, isabel-coloured, very prominent with the vertical sides, straight, narrowly oblong, boat-shaped, 2–3½ mm. long, furnished with an glanduloso-fimbriate inferior ferruginous obscure involucre; sporangia in about 7–14 pairs; receptacle linear.

Nom. Jap. *Ryûbintai-modoki* (nov.).

Hab. Ogasawara Islands (=Bonin Islands): Haha-shima (*S. Tamaki*! August 24, 1912).

Distrib. Moluccas and Luzon.

This genus is new to the Flora of Japan. For the materials my thanks are due to Mr. S. Tamaki.

Osmunda nipponica Makino, sp. nov.

Frond (sterile) bipinnate, chartaceo-membranaceous, green above, paler and veiny beneath, 52 cm. long and 13 cm. wide in my specimen, stipitate, erect, oblong-lanceolate in outline, attenuated at the apex; rachis slender, naked, stramineous; pinnæ opposite or subopposite, erect-patent, about 8 on each side, very shortly petiolulate, ovato-oblong, obtuse at the apex, truncate at the base, glabrous, attaining about 9 cm. long, 5 cm. broad; rachilla narrowly winged; pinnules subnumerous, closely arranged, spreading but erect-patent above, sessile and subobliquely rounded at the base, but adnate and confluent towards the apex, larger in the terminal one, narrow-oblong, obtuse at the apex, obscurely minutely crenulated, the larger ones about 25 mm. long, 10 mm. wide; midrib delicate, prominent beneath; veins erect-patent, close, fine, conspicuous beneath, mainly bi-furcate at the base, and sometimes the branches again bi-furcate.

Nom. Jap. *Ko-zenmai* (nov.).

Hab. Prov. Kôdzuke: Summit of Peak Kurohi on Mt. Akagi (*F. Uhara*! August 1909).

A sub-alpine species having a close resemblance to *Osmunda bipinnata* Hook. of Hongkong in the frond.

Polystichum craspedosorum (Maxim.) Diels in Engler et Prantl, Nat. Pfl.-Fam. I. 4 (1902), p. 189.

Aspidium craspedosorum Maxim. in Mél. Biol. VII. p. 341; Baker in Hooker's Ic. Pl. tab. 1655 (1886); Makino, Phanerog. et Pterid. Jap. Ic. Ill. I. tab. 44.

var. dissectum Makino, var. nov.

Pinnæ pinnati-parted; lobes oval to broadly linear, erect-

patent, pauci-inciso-dentate towards the apex, the upper lowest one larger, obovato-cuneate.

Nom. Jap. *Kikuba-tsurudenda* (nov.).

Hab. Prov. Tosa: Mt. Yokogura (*S. Oda*! 1901).

Chloranthus glaber (Thunb.) Makino, nom. nov.

Bladhia glabra Thunb. in Trans. Linn. Soc. II. (1793), p. 331; Willd. Sp. Pl. I. (1797), p. 1122; Pers. Syn. Pl. I. (1805), p. 233; Rœm. et Schult. Syst. Veg. IV. (1819), p. 513; Spreng. Syst. Veg. I. (1825), p. 664.

Ardisia glabra A. DC. in Trans. Linn. Soc. XVII. (1837), p. 123, et in DC. Prodr. VIII. (1844), p. 135.

Bladhia foliis serratis glabris lævibus Thunb. Fl. Jap. (1784), p. 350, Pl. Obsc. n. 5.

Ascarina serrata Blume, Enum. Pl. Jav. I. (1830), p. 80.

Chloranthus brachystachys Blume Fl. Jav., Chloranth. (1829), p. 13, tab. 2; Moritzi, Syst. Verz. Zolling. (1845–46), p. 80; Hoffm. et Schult. Nom. Indig. Pl. Jap. in Journ. Asiat. (1852), p. 283, n. 137; Zolling. Syst. Verz. Ind. Archip. (1854), p. 83; Miq. Fl. Ind. Bat. I. 1 (1855), p. 801, et Prol. Fl. Jap. in Ann. Mus. Bot. Lugd.-Bat. III. (1867), p. 129; Benth. Fl. Hongk. (1861), p. 334; Solms in DC. Prodr. XVI. 1 (1869), p. 475; Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 444; Maxim. in Bull. Soc. Nat. Mosc. (1879), p. 56; Engler in Engl. Bot. Jahrb. VI. (1885), p, 55, et in Engl. et Prantl, Nat. Pfl.-Fam. III. 1 (1894), p. 13; Hook. fil. Fl. Brit. Ind. V. p. 100 (1886); Forbes et Hemsl. in Journ. Linn. Soc. XXVI. p. 367 (1891); Trimen, Handb. Fl. Ceyl. III. (1895), p. 433; Henry, List Pl. Formos. (1896), p. 78; Diels in Engl. Bot. Jahrb. XXIX. (1901), p. 272; Makino in Bot. Mag., Tokyo, XVI. (1902), p. 179; Matsum. et Hayat. Enum. Pl. Formos. (1906), p. 347; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 3.

Nigrina brachystachys Makino, ined.

Chloranthus montanus Sieb. herb. ex Miq. Ann. Mus. Bot. Lugd.-Bat. III. (1867), p. 129.

Chloranthus ilicifolius Blume in herb. ex Miq. Ann. Mus. Bot. Lugd.-Bat. III. (1867), p. 129.

Chloranthus monander R. Br. in Bot. Mag. tab. 2190 (1821), adnot.

Chloranthus ceylanicus Miq. Fl. Ind. Bat. I. 1 (1755), p. 802.

Chloranthus denticulatus Cordem. in Adans. III. p. 296.

Sarcandra chloranthoides Gardn. in McClell. Calc. Journ. Nat. Hist. VI. p. 348; Wight, Icon. Pl. Ind. Orient. tab. 1946 (1853).

Nom. Jap. *Senryô*.

Hab. Japan, southern.

Bladhia glabra Thunb. is used as a synonym of *Ardisia japonica* Blume by some authors, but it is properly that of *Chloranthus brachystachys* Blume.

Bœhmeria tricuspis (Hance) Makino, nom. nov.

Bœhmeria platyphylla var. tricuspis Hance in Journ. Bot. (1874), p. 261.

Bœhmeria japonica var. tricuspis Maxim. in Mél. Biol. IX. p. 642 (1876); Matsum. Shokub. Mei-i (1895), p. 50.

Bœhmeria longispica β. tricuspis Franch. et Sav. Enum. Pl. Jap. II. (1879), p. 497; Matsum. Cat. Pl. Herb. Coll. Sc. Imp. Univ. Tokyo (1886), p. 176.

Bœhmeria platanifolia var. tricuspis Matsum. Ind. Pl. Jap. II. 2 (1912), p. 42.

Bœhmeria rubricaulis Makino ined.

Nom. Jap. *Aka-so*.

Hab. Japan, mountains.

A herbaceous-stemmed species, quite distinct from *Bœhmeria macrophylla* (Thunb.) Sieb. et Zucc. and *B. platanifolia* Franch. et Sav.

Platycrater serrata (Thunb.) Makino, nom. nov.

Viburnum serratum Thunb. Fl. Jap. (1784), p. 124.

Platycrater arguta Sieb. et Zucc. Fl. Jap. I. (1826), p. 64, tab. 27, et in Abhandl. Akad. Muench. IV. 2 (1846), p. 192; Hoffm. et Schult. in Journ. Asiat. (1852), p. 318, n. 433; Walp. Repert. II. (1843), p. 377; Maxim. Revis. Hydr. As. Orient.

(1867), p. 5; Miq. Prol. Fl. Jap. (1866–67), p. 263; Regel, Gartenfl. (1866), p. 229, tab. 516; K. Koch, Dendrol. I. (1869), p. 359; Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 157; Dippel, Handb. Laubholzk. III. (1893), p. 329, fig. 175; Schneid. Ill. Handb. Laubholzk. I. (1906), p. 383, fig. 245 a-l; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 185.

Platycrater arguta a typica Schneid. l. c.

Platycrater arguta β. hortensis Maxim. l. c.

Nom. Jap. *Baikwa-amacha*, *Mokko-bana*.

Hab. Japan, southern.

By L. Dippel, *Viburnum serratum* Thunb. was thought as the same species with *Hydrangea Thunbergii* Sieb. (=*H. opuloides* Steud. *var. Thunbergii* Makino.=*H. hortensis* Sm. *var. Thunbergii* Boissieu.) and it was altered into *Hydrangea serrata* by Seringe (in DC. Prodr. IV. p. 15), K. Koch (Dendrologie, I. p. 357), and Dippel (Handb. Laubholzk. III. p. 325), but the Thunberg's plant, carefully judging from his descriptions, should be identified with *Platycrater arguta* Sieb. et Zucc. as I did above.

Hydrangea cuspidata (Thunb.) Makino, non Miq.

Viburnum cuspidatum Thunb. Fl. Jap. (1784), p. 125; Willd. Sp. Pl. I. (1797), p. 1491; Pers. Syn. Pl. I. (1805), p. 327; Schult. Syst. Veg. VI. (1820), p. 636; Spreng. Syst. Veg. I. (1825), p. 934.

Hydrangea involucrata Sieb. Syn. Hydr. in Nov. Act. Nat. Cur. XIV. 2 (1829), p. 691; Sieb. et Zucc. Fl. Jap. I. (1826), p. 118, tab. 63 et 64 II, et in Abhandl. Akad. Muench. IV. 2 (1846), p. 192; Ser. in DC. Prodr. IV. (1830), p. 666; Walp. Repert. II. (1843), p. 376; Hoffm. et Schult. in Journ. Asiat. (1852), p. 299, n. 281; Miq. Prol. Fl. Jap. (1866–67), p. 262; Maxim. Revis. Hydr. As. Orient. (1867), p. 10; K. Koch, Dendrol. I. (1869), p. 357; Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 150; Dipp. Handb. Laubholzk. III. (1893), p. 316, fig. 168; Schneid. Ill. Handb. Laubholzk. I. (1906), p. 388, fig. 250 a-e[1]; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 178.

Nom. Jap. *Tama-adzisai.*

Hab. Japan, central and northern.

β. **hortensis** (Maxim.) Makino.

Hydrangea involucrata β. *hortensis* Maxim. l. c. p. 11.

Hydrangea involucrata Sieb. et Zucc. Fl. Jap. tab. 64 I.

Nom. Jap. *Yae-no-gyokudankwa, Gyokudan-kwa.*

Hab. Japan, cultivated, rare.

Hydrangea cuspidata Miq. (Prol. Fl. Jap. p. 262) is probably the variety of a second species, having all radiant flowers on the panicle.

Hydrangea opuloides (Lam.) Steud. Nom. Bot. ed. 1 (1821), p. 416; K. Koch, Dendrol. I. (1869), p. 353; Dipp. Handb. Laubholzk. III. (1893), p. 321; Schneid. Ill. Handb. Laubholzk. I. (1906), p. 391.

Hortensia opuloides Lam. Encycl. Méthod. Bot. III. (1789), p. 136, et Ill. II. (1793), p. 501, tab. 380.

Hydrangea hortensis Smith, Ic. Pict. I. (1792), tab. 12.

Hydrangea Hortensia Sieb. in Nov. Act. Nat. Cur. XIV. 2 (1829), p. 688; Seringe in DC. Prodr. IV. (1830), p. 15.

Hortensia speciosa Pers. Syn. Pl. I. (1805), p. 505.

var. Thunbergii (Sieb.) Makino.

Hydrangea Thunbergii Sieb. in Nov. Act. Nat. Cur. XIV. 2 (1829), p. 690; Sieb. et Zucc. Fl. Jap. I. (1835), p. 111, tab. 58, excl. syn. *Viburnum serratum* Thunb., et in Abhandl. Akad. Muench. IV. 2 (1846), p. 192; Walp. Repert. II. (1843), p. 376, excl. syn. *Viburnum serratum* Thunb.; Maxim. Revis. Hydr. As. Orient. (1867), p. 15; Miq. Prol. Fl. Jap. (1866–67), p. 262, excl. syn. *Viburnum serratum* Thunb.; Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 153, excl. syn. *Viburnum serratum* Thunb.

Hydrangea hortensis var. Thunbergii Boissieu in Bull. Herb. Boiss. V. (1897), p. 691.

Hydrangea serrata Ser. in DC. Prodr. IV. (1830), p. 15, et 666; K. Koch, Dendrol. I. (1869), p. 357.

? *Hydrangea serrata* Dipp. Handb. Laubholzk. III. (1893), p. 325, fig. 173, excl. syn. *Viburnum serratum* Thunb.

Nom. Jap. *Ama-cha* (Sweet Tea).

Hab. Japan, cultivated! (*T. Makino*!).

This variety is readily recognizable by its retuso-rounded suborbiculate radiate sepals. It is not yet known in wild state, but only cultivated. The leaves have a sweet taste when dry, and from the dried leaves so-called '*Ama-cha*' (Sweet Tea) is prepared. For this use the shrub is cultivated abundantly in some localities in Japan. Leaves of no other variety of this species has the sweet taste.

Alnus obtusata (Franch. et Sav.) Makino, nom. nov.

Alnus maritima δ. obtusata Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 458, et II. (1879), p. 502.

Alnus glutinosa var. ζ. obtusata H. Winkl. Betulac. in Engler's Pfl.-Reich. (1904), p. 118; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 17.

Alnus glutinosa Miq. Prol. Fl. Jap. (1866–67), p. 69, non Gærtn.

Alnus glutinosa var. japonica Matsum. in Journ. Coll. Sc. Imp. Univ. Tokyo, XVI. 5 (1902), p. 9.

Nom. Jap. *Kawara-hannoki.*

Hab. Japan, southern.

A shrub. It grows always in sandy places on river side.

Alnus cylindrostachya (H. Winkl.) Makino, nom. nov.

Alnus glutinosa var. ε. cylindrostachya H. Winkl. Betulac. in Engler's Pfl.-Reich. (1904), p. 118; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 17.

Nom. Jap. *Miyama-kawarahannoki.*

Hab. Japan, central and northern.

It is always found on side of rivulets and in bogs on mountains.

Alnus formosana (Burkill) Makino, nom. nov.

Alnus maritima var. formosana Burkill in Journ. Linn. Soc. XXVI. (1899), p. 500; Henry, List. Pl. Formos. p. 90; Matsum. Rev. Alni Jap. in Journ. Coll. Sc. Imp. Univ. Tokyo, XVI. 5

(1902), p. 8; Matsum. et Hayata, Enum. Pl. Formos. (1906), p. 391; Hayata, Fl. Mont. Formos. (1908), p. 199; Kawakami, List. Pl. Formos. (1910), p. 109, n. 1551.

Alnus japonica var. formosana Matsum. Ind. Pl. Jap. II. 2 (1912), p. 18.

Alnus japonica H. Winkl. Betulac. in Engler's Pfl.-Reich. (1904), p. 114, quoad pl. Formos.

Nom. Jap. *Taiwan-hannoki.*

Hab. Formosa.

It flowers in November and December before the fall of leaves, bearing the long and slender catkins. Leaves are almost similar to those of *A. japonica* Sieb. et Zucc. Formosan names are 水柯仔 and 水流柯.

Carpinus carpinoides (Sieb. et Zucc.) Makino, nom. nov.

Distegocarpus carpinoides Sieb. et Zucc. Fl. Jap. Fam. Nat. in Abhandl. Akad. Muench. IV. 3. (1846), explicat. tab. 3 C.

Distegocarpus Carpinus Sieb. et Zucc. l. c. p. 226, n. 798; A. DC. in DC. Prodr. XVI. 2 (1864), p. 128.

Carpinus Carpinus Sargent in Gard. a. Forest, VI. (1893), p. 364, fig. 56, et For. Fl. Jap. (1894), p. 64, tab. 21; Schneid. Ill. Handb. Laubholzk. I. (1906), p. 137, fig. 75 b, et 76 l.

Carpinus japonica Bl. Mus. Bot. Lugd.-Bat. I. (1849–51), p. 308; Walp. Ann. Bot. III. (1852–53), p. 379; Miq. in Ann. Mus. Bot. Lugd.-Bat. I. (1863-64), p. 121, et Prol. Fl. Jap. (1866–67), p. 358; Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 451; Maxim. in Mél. Biol. XI. p. 311 (1881); Dippel, Handb. Laubholzk. II. (1892), p. 143, fig. 68; Shiras. Ic. Forest. Jap. I. (1900), tab. 24, fig. 1–17; H. Winkl. Betulac. in Engler's Pfl.-Reich. (1904), p. 25, fig. 7 D-F. et fig. 8 C; Matsum. Ind. Pl. Jap. II. 2 (1912), p. 21.

Carpinus Side Sieb. herb. ex Miq. l. c.

Nom. Jap. *Kuma-shide.*

Hab. Japan.

var. cordifolia (H. Winkl.) Makino.

Carpinus japonica var. cordifolia H. Winkl. l. c. p. 26; Matsum. l. c.

Carpinus japonica var. Maxim. in Mél. Biol. l. c.
Nom. Jap. *Ô-kumashide.*
Hab. Japan.

Rhamnus (Eurhamnus) **Sieboldiana** Makino, sp. nov.

A small deciduous tree, with spinous branchlets; branchlets elongate, terete, but often striate when dry, smooth, glabrous, cinereous, cinereo-umber, or cinereo-castaneous, very thinly dispersed with minute punctiform inconspicuous, lenticels, leaf-scars prominent; bud-scales deciduous, ovato-oblong, obtuse, entire, concave, crustaceo-membranaceous, darkish below, fulvous and thining above, retrorsely densely ciliated with colourless hairs, 2-nerved towards the centre, 4–6 mm. long. Leaves subopposite or alternate, sometimes opposite, petiolate, obovato-oblong, obovato-elliptical, obovato-oval, oblong, or elliptical, shortly projecting- acute or obtuse at apex, acute or cuneate at base, obscurely crenate with very minute mucros, chartaceo-membranaceous, glabrous but thinly patently piloso-pubescent on the midrib and veins beneath, green on both surfaces, but often flavescent or more or less nigrescent when dry, 3–21 cm. long, 2–8½ cm. broad; midrib yellowish green, prominent beneath, impressed on the upper surface; veins pale green, 4–10 on each side, long, slender, ascending, prominent beneath, impressed above; veinlets minutely anastomosing beneath; petiole very thinly patently pubesent, terete, canaliculated in front, yellowish green, 6–25 mm. long; stipules free, one on each side, caducous, setaceo-linear or narrowly linear, 1–nerved, ciliated, shorter than petioles, 4–8 mm. long. Flowers (female) small, pedicellate, appear on foliiferous branchlets of this year, 3–5–fasciculate, axillary, shorter than petioles, viridescent but nigrescent when dry; pedicels filiform, glabrous, 6–7 mm, long. Calyx glabrous, 2½–3 mm. long; tube short, rounded at base, cupuliform, wholly lined with a thin disk internally; lobes 4, narrowly deltoid, acutish, entire, 3–nerved, about 2 mm. long. Rudimentary stamens 4, minute, inserted on the throat, alternate with calyx-segments, erect; filament subulate, longer than the

anther. Ovary subdepressed-globose, glabrous, somewhat exserted upon the calyx-tube in height, 2–3–celled, slightly 2–3–sulcate longitudinally; style erect, exserted, stout, longer than the ovary, about 2–3 mm. long, 2–3–fid; arms recurvo-erectpatent, terete, stigmatose towards the top ventrally. Fruit (immature) with a persistent circular calyx-tube at the base, obovoid-globose, glabrous, nigresent when dry, about 4 mm. across; pedicel gracile, strict, glabrous, 7–11 mm. long.

Nom. Jap. *Siebold-no-ki* (a vernacular name in Nagasaki).

Hab. Prov. HIZEN: Nagasaki, cult. (*Zentarô Tashiro*!; *T. Makino*!; *T. Hirotsu*! herb. Sc. Coll. Imp. Univ. Tokyo; *J. Matsumura* and *G. Koidzumi*! herb. ibid.), Arikawa in Isl. Nakadôri (*S. Takaira*! commun. *Z. Tashiro*, Aug. 15, 1904).

A species with large leaves. This tree at Nakagawa-gô in Nagasaki, now called by the name of *Siebold-no-ki* (namely Siebold's Tree), is said to have been planted by Dr. von Siebold.

Patrinia hybrida Makino in Bot. Mag. Tokyo, XXII. (1908), p. 167, Miscel. =*Patrinia villosa* Juss. × *P. scabiosæfolia* Link.

A robust herb, attaining about 1½ m. in height. Stem erect, terete, reflexly puberulent, green, oppositely ramose above. Leaves opposite, pinnatiparted, but passing into the small entire lanceolate leaves towards the top, membranaceous, very thinly pubescent, largest ones attaining about 23 cm. long, 15 cm. wide; lateral segments 1–5 on each side, lanceolate to ovato-lanceolate, acuminate, laxly coarse-dentate, the lower ones smaller and distant each other; terminal segment larger, oblong or lanceolate, acuminate, coarsely dentate. Cymes oppositely ramose; branches gracile, divaricate, many-ramulose, many-flowered at the top, densely reflexo-puberulent as well as ramules and pedicels; bracts angustately leafy below, but smaller and linear above; bracteoles subulate or linear-subulate, obtuse, ciliated. Flowers minute, pale-yellow, not much dense, very shortly pedicellate, about 2 mm. across; pedicel about ½ mm. long; bracteole under the flower rounded, membrana-

ceous, glabrous, not exserted. Calyx minute, very short, truncate, annular, slightly crenate, glabrous, persistent. Corolla infundibuliform-campanulate; tube wide, very shortly contracted at the base, villose internally; lobes 5, shorter than the tube, rounded. Stamen 1, exserted, glabrous, inserted in the lower part of the corolla-tube; filament linear-filiform; anther elliptical-oblong, with globulous pollen, $\frac{3}{4}$ mm. long. Style 1, erect, somewhat shorter than the corolla, rather stout, glabrous; stigma capitate. Ovary obovoid-globose, with an adnate pubescent gibbosity on one side. Fruit (immature) globular, crowned with a persistent calyx, thinly puberulent; the adnate appendage dilated, elliptical, pubescent, $1\frac{1}{2}$–2 mm. long, wider and longer than the fruit itself; bracteole under the fruit then much enlarged and about 4 mm. long, $3\frac{1}{2}$ mm. broad, foliaceous, oval-orbicular, reticulato-veined, erect, viridescent.

Nom. Jap. *Otoko-ominaeshi* (T. Makino).

Hab. Prov. Higo: Mt. Fukaba (*T. Makino*! Sept. 1, 1907).

A hybrid established in wild between two species of *Patrinia villosa* Juss. and *P. scabiosæfolia* Link., which are common in Japan, and it is very rare through Japan, though is found rather abundantly at its home.

Myrica rubra Sieb. et Zucc.

α. **rubra** (Sieb. et Zucc.) Makino.

Myrica rubra Sieb. et Zucc. in Abhandl. Akad. Muench. IV. 3 (1846), p. 230, n. 806.

Myrica Nagi C. DC. in DC. Prodr. XVI. 2, p. 151 (1864); Miq. Prol. Fl. Jap. p. 293; Hook. fil. Fl. Brit. Ind. VI. p. 597; Engl. in Engl. et Prantl, Nat. Pfl.-Fam. III. 1, p. 27, non Thunb.

Fruit rubric when mature.

Nom. Jap. *Yama-momo*.

Hab. Japan, central and southern.

β. **alba** Makino, var. nov.

Fruit white or albescent when mature.

Nom. Jap. Shiro-momo.

Hab. Japan, uncommon.

Gardenia florida Linn. **var. radicans** (Thunb.) Matsum.

forma a. Thunbergii Makino.

Gardenia florida var. radicans Matsum. in Bot. Mag., Tokyo, XV. (1901), p. 4.

Gardenia radicans Thunb. Fl. Jap. (1784), p. 109, tab. 20; Maxim. in Mél. Biol. XI, p. 793.

Flower double.

Nom. Jap. *Ko-kuchinashi.*

Hab. Japan, cultivated.

forma b. simpliciflora Makino.

Flower simple, about 6 cm. in diameter, white, fragrant. Calyx green, deeply 6–parted; lobes linear, suberect, shorter than the corolla-tube. Corolla hypocraterimorphous; lobes 6, patent, obovato-cuneate, obtuse; tube terete, straight. Stamens 6, spreading; anther linear. Style exserted; stigma erect, oblong. Ovary subobconical, 6–ridgy and 6–sulcate. Fruit globular, crowned by the persistent calyx, 6–ridgy.

Nom. Jap. *Hitoe-no-kokuchinashi.*

Hab. Japan, cultivated, rare.

Paris tetraphylla A. Gray, Bot. Jap. p. 412; Miq. Prol. Fl. Jap. p. 311; Franch. et Sav. Enum. Pl. Jap. II. p. 57; Franch. in Mém. Soc. Philomath. (1888), p. 248, tab. 24, fig. 1.

var. sessiliflora Makino, var. nov.

Flower sessile. Otherwise as in the type.

Sepals 4, lanceolate, acuminate, green, alternate with leaves, 14–20 mm. long. Stamens 8, shorter than sepals; filament subulato-filiform, light green; anther linear or oblong-linear, much shorter than the filament, yellow. Ovary small, globose; styles 4, filiform, atropurpurascent, about equal to the stamens in length, very shortly connate into one at the base. Leaves 4, verticillate, patent, oblong or lanceolato-oblong, acuminate at apex, cuneate towards the base, green, herbaceous, membranaceous, glabrous, triplinerved, $6\frac{1}{2}$–$8\frac{1}{2}$ cm. long, 2–$3\frac{1}{3}$ cm. wide. Stem erect, simple, solitary, elongate, gracile, terete, green, herbaceous, attaining about 4 decim. in length. Rhizome creeping, slender, terete, pale; nodes not incrassate or

hardly so; internodes about 1–2 cm. long; roots fibrous, delicate.

Nom. Jap. *Yokogura-tsukubane* (nov.).

Hab. Prov. Tosa: Mt. Yokogura (*S. Oda*!).

Diospyros Lotus Linn.

α. **typica** Makino.

Diospyros Lotus Linn. Sp. Pl. p. 1057.

Leaves constantly pubescent beneath.

Nom. Jap. *Mame-gaki, Ko-gaki, Budô-gaki.*

Hab. Japan, central and northern, cultivated (*Y. Chiba*!; *T. Yagi*!; *S. Ito*!).

β. **glabra** (A. DC.) Makino.

Diospyros Kaki γ. glabra A. DC. in DC. Prodr. VIII. (1844), p. 229.

Diospyros Kaki β. Thunb. Fl. Jap. (1784), p. 158.

Diospyros microcarpa Sieb. in Ann. Soc. Hort. Pays-bas (1844), p. 28.

Diospyros japonica Sieb. et Zucc. in Abhandl. Akad. Muench. IV. 3 (1846), p. 136; Miq. Prol. Fl. Jap. (1866–67), p. 280.

Diospyros Lotus Franch. et Sav. Enum. Pl. Jap. I. (1875), p. 306; Matsum. in Bot. Mag., Tokyo, XIV. (1900), p. 101, non Linn.

Diospyros Lotus Hiern, Monogr. Eben. in Trans. Cambr. Philos. Soc. XII. 1 (1873), p. 223, pro parte, non Linn.

Leaves glabrous.

Nom. Jap. *Shinano-gaki.*

Hab. Japan, central and southern, wild and cultivated (*T. Makino*!).

This variety has the following 3 forms.

forma a. globosa Makino.

Fruit globose.

The wild form, which is found in Shikoku and Kiusiu, etc., belongs to this.

forma b. ovoidea Makino.

Fruit oval.

A cultivated form.

forma c. ellipsoidea Makino.

Fruit ellipsoid.

A cultivated form.

Chrysanthemum Decaisneanum (Maxim.) Matsum. Shokub.-Meii (1895), p. 78, n. 838.

Pyrethrum Decaisneanum Maxim. in Mél. Biol. VIII. p. 519.

a. **radiatum** Makino.

Ray-flowers developed in various degrees, white, female. Disk-flowers numerous, yellow, hermaphrodite.

forma a. incompletum Makino. (Fig. XXIII.)

Heads about $1\frac{1}{3}$ cm. in diameter. Ray-flowers incompletely developed; ligule spreading and then often reflexed, often labiate, having the broader and oblong lower lobe, and the smaller and linear upper lobe.

Nom. Jap. *Shio-giku.*

Wild and cultivated.

forma b. modestum Makino. (Fig. XXIV.)

Heads moderate-sized, about 3 cm. in diameter. Ray-flowers moderately developed; ligule patent, narrowly oblong.

Nom. Jap. *Shio-giku.*

Wild and cultivated.

forma c. satsumense (Yatabe) Makino. (Fig. XXV.)

Chrysanthemum Decaisneanum var. satsumense Makino, List of Seeds, Bot. Gard. Imp. Univ. Tokyo (1895), p. 20; Id. in Bot. Mag. Tokyo, XXII. (1908), p. 36.

Chrysanthemum sinense var. satsumensis Yatabe in Bot Mag., Tokyo, V. (1891), p. 2, tab. 20, et Iconogr. Fl. Jap. I. 1 (1891), p. 27, tab. 11.

Chrysanthemum ornatum Hemsl. in Curtis's Bot. Mag. tab. 7965 (1904).

Chrysanthemum marginatum Paffill in Gard. Chron. (1904), I. p, 51, fig. 22, non N. E. Brown.

Nom. Jap. *Satsuma-nogiku* (R. Yatabe).

Wild and rarely cultivated.

forma d. hortense Makino. (Fig. XXVI.)

Stem tall, attaining about 1 m. in height. Leaves larger. Heads large, attaining about 5 cm. in diameter, not numerous,

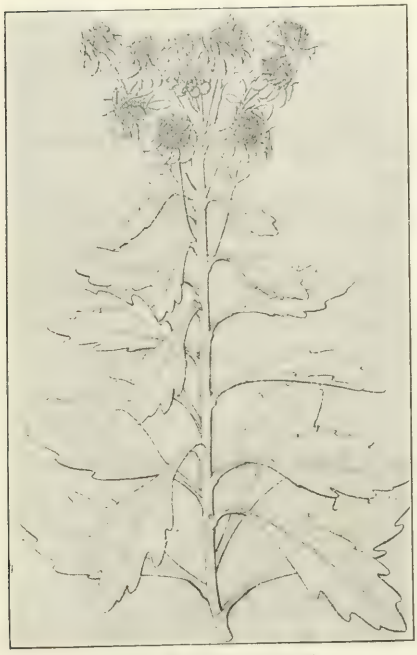

FIG. XXIII. *reduced.*

FIG. XXIV. *reduced.*

FIG. XXV. *reduced.*

FIG. XXVI. *reduced.*

FIG. XXVII. *reduced.*

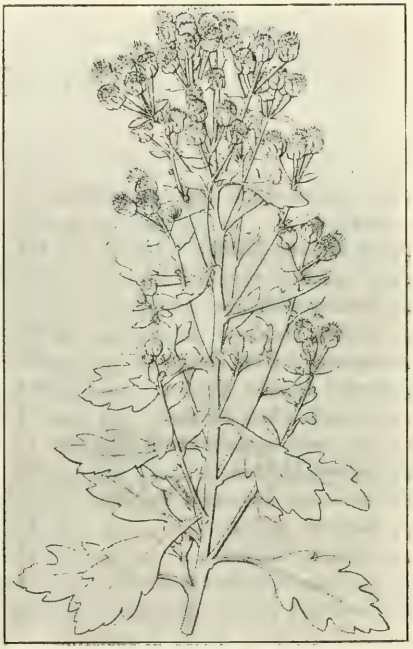

FIG. XXVIII. *reduced.*

few to several to a branch. Ray-flowers usually well developed, spreading; ligule linear or linear-oblong, often tubular in the lower portion, or bifid, or babiate. Sometimes the head smaller (Fig. XXVII.); ray-flowers suberect; ligule tubular below and labiate above.

Nom. Jap. *Misono-shiogiku* (nov.).

Cultivated in gardens, uncommon.

β. **discoideum** Makino. (Fig. XXVIII.)

Heads discoid, destitute of ray-flowers, numerous, dense, small. Flowers yellow, the inner ones hermaphrodite, the external ones female and less in number. Female-flower: corolla-lobes usually 5, linear-lanceolate, obtuse. Hermaphrodite-flower: corolla-lobes 5, deltoid, acute.

Nom. Jap. *Mame-shiogiku* (nov.).

Hab. Japan, wild and cultivated.

(*To be continued.*)

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CORRECTIONS.

Page 183, line 7–8 from bottom, "attaining.....broad" *insert after* "glabrous" *in line* 9 *from bottom.*
— 243, line 9, *for* "surface-" *read* "surface,"
— —, line 16, *after* "long" *add* ","
— —, line 18, *for* "elliptical," *read* "elliptical-"
— 244, line 17 from bottom, *for* "anguis" *read* "unguis"
— —, line 8 from bottom, *for* "in" *read* "on"
— —, line 6 from bottom, *dele* "the" *in the head of the line.*
— 245, line 3, *for* "pollicles" *read* "follicles"
— —, line 6, *for* "coste" *read* "costate"
— 246, line 10, "Hab." *in italic.*
— 282, line 10, *for* "p." *before* "1364" *read* "n."
— 289, line 7 from bottom, *for* "Corea" *read* "Corean"

物ノ性能ヲ基礎トシテ實行シ得ベキ諸多ノ育種法（昂進育種、偶然變異ニ由ル育種及ビ異種分離法、交雜及ビ無性生殖ニ由ル育種）ヲ說キ尙ホ育種場及ビ其管理、形質調査用器具等ヲ略述シ、第三編各論ニ於テハ小麥、大麥、燕麥、ライ麥、稻、玉蜀黍ニ就キ花ノ構造、開花及ビ授精、相關現象、育種ノ目的及方法等ヲ記述シテ其實例トナシ、卷末ニハ育種學用語和獨對譯表ヲ載セタリ。由來作物ノ育種ハ其種類ノ如何ニヨリ特種ノ經驗ニ俟ツ所多キモ作物全般ニ涉レル性能ノ如何及ビ變異遺傳ニ關スル一般ノ法則ヲ知ルハ此等實踐的方面ニ處スルニ當リ常ニ缺クベカラザル所ニシテ尙各自ノ經驗ヲ統一把持スルニ當リテモ此ノ如キ智識ノ有用ナルハ言ヲ俟タズ、然ルニ本邦未ダ此種ノ書ニ乏シク今此一本ヲ得タルハ先ヅ吾人ノ甚ダ喜ブ所ニシテ余輩ハ更ニ此種ノ書ノ簇出シテ本邦殖產界ニ貢獻スル所多カラン事ヲ切望スルモノナリ

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（小松春三氏紹介）（終身會員）　戶田康保

○轉　居

東京市小石川區久堅町八番地森方　小島美津次

同市赤坂區靑山南町六丁目一四二番地　野原茂六

東京府豐多摩郡上澁谷一三五番地岡野方遠藤保太郎

岐阜縣揖斐郡長瀨村長瀨　松井守正

名古屋市長塀町二丁目八番地　梅村甚太郎

埼玉縣北葛飾郡彥成尋常高等小學校　富田杉太郎

長野縣上田町上田蠶絲專門學校植物學敎室　田中長三郎

東京市本鄕區東片町百三十四番地　郡場寬

東京市小石川區原町百三十三番地　中野治房

（正誤）本誌第三百九號（九月出版）牧野富太郎紀事中302頁上欄十六行挺出ハ挺出ノ誤○同二十行花ノ下ニ花ヲ脫ス○同頁下欄十五行ニハハ云ノ誤○同302頁上欄三行ひるがほハヒルガホノ誤○同下欄末行 tribyllus ハ triphyllus ノ誤

ニ力ヲ致サントスルモノノ少キハ實ニ遺憾ナリト云フベシ、余足ラザル所多シト雖モ、岡村遠藤兩博士ノ驥尾ニ附シ、終生身ヲ海藻ノ學ニ捧ゲントス』ト。君ノ大學ニ入ルヤ、學課ノ餘暇海藻ノ書ヲ耽讀シ、近ク遠ク其ノ採集ニ怠ラザリキ、本春四月中國四國ノ地ニ採集ヲ試ミ、其ノ須磨ニ在ルノ日、肋膜ヲ患ヘ、轉ジテ肺ヲ犯サル。生來未ダ藥味ノ如何ヲ解セザリシ頑健ノ君モ、遂ニ之ト抗シテ立ツ能ハズ、明治四十五年七月三十日、享年僅ニ二十有四ヲ以テ須磨療病院ノ病室ニ長逝シ、朝ノ紅顏變ジテ夕ノ白骨トナリ、大阪市外長柄ノ墓地（天滿驛ヨリ六七丁、鶯茶屋ハ矢島家ノ墓守タリ）ニ一基ノ石碑トナル。嗚呼天何ゾ無常ナルノ甚シキ、怨ミテモ尙餘リアリト云フベシ。天若シ君ニ假スニ幾多ノ春秋ヲ以テシ、其ノ好ム所ニ從ハシメンカ、藻學界ニ貢獻スル所豈ニ少ナカラズトセンヤ。岡村博士房州ヨリ余ニ寄セラレタル書狀ニ君ヲ惜マレテ曰ク、『誠ニ同學の士あたら蕾の若者を惜みても尙餘りある儀に候』ト、實ニ博士ノ此ノ語、簡ニシテ意誠ニ深シ、其ノ眼底萬斛ノ熱涙アリシヲ想像スルニ難カラズトセンヤ。君ノ所藏ノ書籍及ビ多年ノ丹精ニナレル標品ハ、義兄木下淑夫氏ヨリ擧ゲテ之ヲ植物學敎室ニ寄セラル、氏ノ靈是ニヨリテ長ヘニ吾ガ敎室ニ止マルベク、余等又今後之ニ接スルノ際聊カ以テ君ヲ偲ブノ便リトナシ得ベキカ。噫。（大正元年十月下旬稿）。

○文部省植物科敎員檢定本試驗合格者

去ル十月三十一日施行セラレタル文部省植物科敎員檢定本試驗ニ合格セラレタル諸氏ノ中本會會員左ノ如シ。

荒木茂平君
安藤孝君
京道信次郎君

◎新刊紹介

○農學士明峰正夫氏著種子及育種後編作物育種學

（一八四頁）（裳華房發行　定價一圓）

本書ハ農業種子學ノ後編トシテ出デタルモノニシテ作物ニ起ル變異及ビ遺傳ノ現象ヲ基礎トシ育種ニ關スル一般ノ方法ヲ指導セルモノナリ、第一編ニ於テハ先ヅ作物ノ意義、分類、品種、繁殖、開花及ビ授精ニ關スル一般的概念ヲ與ヘ、次ニ植物ニ於ケル諸種ノ變異、諸性質ノ相關的表現及ビ遺傳ニ於ケル種々ノ場合等ニ就キ晩近知ラレ來レル幾多ノ研究ヲ平易ニ記述シ、第二編育種本論ニ於テハ先ヅ育種ノ種類及ビ淘汰ヲ概說シ、次ニハ前述植

候モ所謂氷河ノ遺跡ハ到ル處ニ見ルヲ得ベク「カール」ナドハ實ニ見事ナルモノニテ候グランピアン山脈ハ主トシテ花崗岩ニヨリ成リ候隨ツテみづごけノ生ズル事少ナク候モ「マイカ、シスト」ノベン、レディ、ベン、ローモント、ベン、ロワースナドハ山頂ニ至ルマデみづごけ繁生シ登山ハ尾瀬ケ原ヲ横斷スルノト大差無之本邦ナドニハ到底見ルヲ得ザル奇觀ニ候尤モ斯カル處ニテハ水ハ皆濁リテ醬油色ヲ呈シ山紫水明ナド云フ句ハ到底念頭ニ浮ビ申サズ候瀑布湖水ナド何レモ暗渇色ノ水ニ候又山ハ只山麓ニ森林アルノミニテ日本ノ山岳ノ如ク絶頂マデ美シキ森林ニ蔽ハル、樣ナ事ハ夢ニモ無之候日本ノ山岳ヲ直譯シテ Mountain forests ニテ候蘇國ノ山ノ大部分ハ *Calluna Vulgaris* ト申ス石南科ノ小灌木ニテ蔽ハレ八九月ノ頃該植物開花ノ候ニハ山ハ淡紅紫色ニ變ジ頗ル美觀ニ候本年六月小生 Imperial College ノ課程ヲ終リテ D. I. C. ト申ス肩書寧ロ殿書ヲ頂戴スル事トナリ候小生ハ同時ニ同「コレヂ」ノ「デモンストレーター」ニ任命致サレ候授業ハ十月ヨリ初メ候事ニ候へ共ソロ〳〵標品ヤ實驗材料ヤ器械類ナドノ準備ニ着手致ス筈ニ候第一學期ニハ純正植物學ノ學生及ビ應用植物學（主トシテ木材學ニ關スルモノ）幷ニ菌類學ノ學生ノ世話ヲ燒ク事ニナルベク第二學期ニハ Advanced botany ノ學生ノ實驗及ビ講義ヲ受持ツ事トナルベキカト存ジ候へ共ドウイフ風ガ吹クカ其時ニナッテ見ネバワカリ申サズ候

○矢島省三君ヲ惜ム

岡村周諦

秦駝師アリ、一珍草ヲ得テ之ヲ愛育シ、蕾將ニ綻ビントスルニ際シ、楠風沐雨之ヲ挫折ス、痛嘆何物カ之ニ比スルヲ得ンヤ。螢雪ノ學漸クニシテ積ミ、今ヤ一簣ニシテ功ヲ成サントスルニ當リ、諸行無常ノ嵐吹キ過ギリテ學界ノ愛兒ヲ拉シ去ル、哀惜何ンゾオク能ハザランヤ。先キニハ園一郎君ヲ失ヒ、今亦矢島省三君ノ訃ニ接ス、是レ豈ニ近時植物學界ノ恨事ナラズトセンヤ。

省三君ハ大阪ノ人、矢島清七氏ノ長男タリ、府立天王寺中學ヲ卒ヘ、第七高等學校ヲ經テ、昨秋東大理科植物學科ニ入學ス。君天性活潑ニシテ劍ヲ善クシ疾走ニ巧ナリキ。又他人ノ言ヲ模スルニ秀デ、隨ツテ語學ニ長ズ。常ニ長靴ヲ穿チテ澗歩シ、口角泡ヲ飛バシテ談論ス。而シテ君ノ最モ好ム所ハ植物ノ採集ニアリ、北ハ奥羽ノ諸山、信越ノ高嶺ヲ跋渉シ、南ハ薩南諸島、琉球ノ地ヲ踏破ス。君常ニ慨シテ曰ク『本邦四面ヲ繞ラスニ海ヲ以テシ、南亞熱帶ヨリ北寒帶ニ亘ル、其ノ海產植物ニ富ミ、其ノ研究ニ利便ナルコト、何レノ國カ吾レニ及ブ所アランヤ。然ルニ學士ノ陸生植物ニ親ムモノ多キニ比シ、海產植物

牧野富太郎

今日やぶえんごさく一名びっちりノ和名ヲ以テ Corydalis decumbens Pers ヲ呼ブ是レ誤ナリやぶえんごさくハ當ニ Corydalis remota Fisch. ノ一品ヲ呼ブノ名ト是正スベキモノニシテ飯沼慾齋著ノ草木圖說卷十三中ノ圖ハ固ヨリ C. decumbens Pers. ニハアラザリシナリ、見ルベシ其花穗上ノ苞ヲ、覽者ハ直ニ首肯スベシ然レバ則チ C. decumbens Pers. ハ何ノ和名ヲ以テ之ヲ呼ブベキ、予ハ之ヲ じろばうえんごさく ト云フ卽チ次郎坊ノ名ハ小野蘭山翁ノ本草綱目啓蒙ニ基ヅケルナリ

○やぶらんノ果實

牧野富太郎

やぶらんハ Liriope graminifolia Baker (=L. spicata Lour.)ナリ本種ノ果實狀ヲナセル黑球ハ是レ果實ニアラズシテ種子ナリ卽チ露出セル種子ナリ能ク實物ヲ檢セザレバ往々之ヲ果實ト誤認シ之ヲ漿果トシ以テ其黑熟セル部ヲ果皮ト想フコトアリ然レドモ前述ノ如ク是レ正ニ種子ナリ、見ヨ其能ク發育セルモノハ六個ノ黑球體ノ小梗ノ頂ニ環列セルアルヲ、是レ元ト三室ノ一子房中ニ在ル卵子 (Ovules) ノ悉ク發育セルモノナリ然レドモ此ノ如ク六顆皆能ク發育スルモノハ尠ナク或ハタヾ三顆或ハ二顆或ハ一顆等ノミ發育シ不育ノモノ往々小粒ヲナシテ遺ルヲ見ル、而シテ果皮ハ如何果皮ハ花後增大セズシテ直チニ萎縮シ爲メニ極メテ幼嫩ノ綠色種子ヲシテ外ニ露出セシム Bentham, Hooker 兩氏合著 Genera Plantarum, 第三卷第六百七十八頁 Liriope 屬ノ下ニ曰ク Pericarpium post anthesin ruptum nec auctum. Semina……maturatione exserta, globosa, bacciformia,……ト

◎雜報

○在英中ノ武田氏ヨリ會員某氏ヘノ手紙ノ一節

本夏ハ七月ニデボン及ビニューフォレストニ三週間許リヲ費シテノ後八月ノ初メヨリスコットランドニ旅行シ歸路オックスフォードニ立寄リ一兩日前歸宅致シ候……今回ハ植物ハ餘リ採集致サズ只多少珍ラシキモノノミヲ集メシニ過ギズ候前記モローン、ヒル (2819 ft) 及ビラリク、グルー (蘇國最高ノ峠) ナドニテくまこけももノ繁殖セルニ出會ヒ又ロホ、ナガル、ブレリアッハ (4248 ft) ナドノ頂上ニ *Juncus triglumis* ノ一面ニ生ヒ茂レルナド多少目新シキモノニテ候ヒシ四千尺以上ノ高山ニハ往往殘雪有之ソバロニ日本ノ中央山系ヲ偲ビ候尤モ當國ニテハ日本ト異リテ殘雪累々谷ヲ埋ムル樣ナ事ハ少ナク

行發日十二月二十年元正大

○本誌ニ掲ゲタル支那植物名ノ訂正第二

松田定久

余ノ僉定ニ從事シタル支那植物ノ名稱中正鵠ヲ失スルモノ尠ナカラズ爰ニ之ヲ訂正シテ謹デ疎漏ヲ謝ス僉定ノ容易ナラザルハ往々後ニ定メタルモノ必シモ是ナラズ前ニ僉スル所全ク非ナラザルガ如キ事アルヲ免レズ ト雖概シテ最後ニ定メタルヲ可トシテ之ニ據レリ

Corrections.

Vol.	Page.	
XX.	(166)	*For* Quercus aliena Bl. *read* Q. Faberi Hance (according to G. Koidzumi).
"	(172)	" Carex sp. (nos. 228, 243). *read* C. laticeps Clarke ?
"	(175)	" Phyllostachys puberula Munro *read* Ph. nidularia Munro ?
XXIII.	(62)	" Elaeagnus angustifolia L. ? *read* E. hortensis Bieb. subsp. continentalis Servet. *a.*, igda Servet.
"	(151)	" Ampelopsis heterophylla Sieb. et Zucc. *read* Vitis flexuosa Thunb.
XXIII.	(152)	*For* Callicarpa longifolia Lam. ? *read* C. formosana Rolfe ?
"	(436)	" Ajuga sp. *read* Caryopteris nepetaefolia Max.
XXIV.	(92)	" Argemone mexicana L. *read* Dicranostigma leptopodium (Max.) Fedde.
"	(95)	" Artemisia sp. *read* A. anethifolia Weber ?
"	170	" Mussaendra frondosa L. *read* M. pubescens Ait.
"	172	" Mosla lanceolata Max. *read* M. chinensis Max. ?
"	"	" Polygonum capitatum Hamilt. *read* P. criopolitanum Hance

○やぶえんごさくノ和名ヲ以テ Corydalis decumbens Pers. ヲ呼ブハ不當ナリ

1912 Bd. XXX, 1. Generalversam.-H., pp. 29–35. 參照)

○こうまごやしノ學名ノ創撰者ニ就テ

松田定久

植物ノ學名同一ナルモ其創撰者(author)異ナルトキハ同一種ノ植物ヲ指スモノニアラザルハ通則ナレドモ其創撰者ノ名異ナルニ係ハラズ明カニ同一種ヲ指ス場合アリ是畢竟後ノ學者ガ某學名ノ創撰者ヲ認ムルニ當リ意見ノ一致セザルヨリ來ルベシト雖此ノ如キ學名ニ遭逢スルトキハ吾人ガ疑惑ヲ生ズルコトヲ免レズこまごやし(Medicago minima)ノ學名ノ如キハ其一例ナルベシ

余ノ知ル所ニテハ其學名ノ創撰者ヲ記スルニ三樣アリ

(甲) Medicago minima Linn. (or L.)

(乙) Medicago minima Lamk.
Lam. 又ハ Lamarck ト記シタルモ皆同ジ、

(丙) Medicago minima (L.) Bartal.
單ニ Bartal. ト記スルモ同ジ又罕ニ Batalin ト記シタルアリ是ハ蓋誤植ナリ

甲ノ記シ方ハ Index Kewensis ニ見ユ是レハ林那氏ノ著書(Flora anglica)ニ基キタリト云フ余ハ此記シ方ニ Index Kewensis 以外ニテハ遭逢セズ勿論林氏ガ種名(變種名、異品名ナドデナク)トシテ minima ノ創撰アリタルナラバ之ニ遵フベキコト至當ト思フサレドモ Fl. anglica ナル書ハ余未ダ之ヲ窺フヲ得ズ之ニ付キテ可否スルコト能ハズ

乙ノ記シ方ハ垤氏ノ書(DC. Prodromus II. 178)ニ出ヅ而シテ Medicago polymorpha minima Linn. ヲ異名トシテ附記シアリ其他數氏ノ書(Ledebour, Fl. Rossica I.; Sowerby, Eng. Bot. III.; Baker in Hook. f. Fl. Brit. Ind. II.; Thome, Fl. Deutschland III.; Matsum. Inpex Pl. jap. II. pars 2)モ亦此ノ如シ此記シ方ノ據ル所ハ蓋維氏ノ書(La Marck, Encyclopèdie méthodique Botanique, 1783—1817)ナリ

丙ノ記シ方ハ符氏ノ書(Fedtschenko in Beihefte z. Bot. Centralb. XXII. 2 Abt. 199)ニ之ヲ用フ而シテ M. polymorpha γ. minima L. ヲ異名トシテ附記ス巴氏ノ書(Harms in Engl. Bot. Jahrb. XXIX. 411)ニモ亦之ヲ用フ余ハ本誌(二十一卷三二八頁)ニ於テ此名ノコトニ言及シタルコトアリ此記シ方ノ據ル所ハ蓋婆氏ノ書(Bartalini, Catal. Pl. Sien)ニアリ此書ノ年代ハ1776ト思考ス

以上ヲ約言スレバ甲ノ記シ方ハ諸書多ク採用セズ暫ク之ヲ置ク乙ト丙トニ就キテハ後者ノ據ル所ノ書ハ前者ノ據ル所ノモノヨリモ舊シ故ニ丙ノ記シ方 Medicago minima (L.) Bartal. ヲ以テこうまごやしヲ表スルヲ妥當ト思考ス

ノ類ノ葉ノ運動モ亦之ニ似タル自起的現象ニハアラザルカトノ疑問ヲ抱キ、近頃其研究ニ取リ掛リ外界ノ狀態一定不變ノモトニベにばないんげんノ葉ガ如何ナル運動ヲナスヲ究メントセリ、先ヅ其種子ヲ平常狀態ノモトニ植木鉢中ニ發芽セシメ其幼植物ガ初生葉(Primärblatter)ヲ生ズルニ至リ同植物ノ芽ヲシテ暗匣ノ底ヲ通シテ其內部ニ成長セシメ其內ニテ三裂葉ヲ生ズルニ至リテ之ヲ其儘一定不變ノ溫度ニテ絕ヘズ光線ヲ浴シツヽアル室中ニ齎シ暗匣中ノ黃化サレタル葉ノ運動ノ有樣如何ヲ觀察セリ、卽チ三裂葉ノ中央片ノ運動ノ有樣ヲ器械ニヨリテ自働的ニ紙面上ニ畫カシメタルニ、畫カレタル運動曲線(Bewegungskurve)ハ晝ト夜トニ相當スル週期的ノ大ナル高底ヲ示セル外、小ナル自働的震動ヲ現ハセリ、之ヲ平常狀態ニ於ケル葉ニヨリテ畫カレタル運動曲線ト比較スルニ只曲線ノ表ハセル高底ノ度ニ於テ差異アル外、性質ニ於テハ兩者ニ何等ノ差アルヲ認メズ、サレバ該植物ノ葉ハ外界ノ狀態一定不變ナルモヨク晝夜ノ別アル平常ノ場合ト同樣ノ運動ヲ爲シウルナリ、然レドモ此實驗ノ結果ヨリ以テ直チニ自起的週期運動ノ存在ヲ是認スルヲ得ズ、コハ初メ幼植物ガ初生葉ヲ著クルマデニ得タル晝夜的暗明ニヨル刺戟ノ結果得タル性質ノ後作用ニアラズヤトノ疑ナキ能ハズ、サレバ氏ハ更ニ同植物ヲ恒暗恒溫ノ室內ニテ發芽セシメテ得タル植物ノ葉ニ付テ同樣ノ實驗ヲ試ミタルニ其結果ハ前者ト同樣ニ明瞭ナル週期現象ヲ現ハセリ、之ヲ見レバ強チ自起的週期運動ノ存在ヲ否定スベクモアラズ、故ニ氏ハべにばないんげんノ葉ノ就眠運動ハ自起的週期現象ナルベシト考ヘタレドモ、假ニ此運動ガ全ク外界ノ刺戟ニヨリテ誘起セラレタルモノニテ彼ノ葉柄關節部ノ兩半部ニ膨壓力ノ差ヲ來セル結果ナリトセバ、同一植物ノ二ツノ葉ノ運動ハ必ズシモ同時的ニアラザルベク時ニハ一ハ抗起シ他ハ下垂スルガ如キ事アル筈ナルベシ、而ルニ同一植物ノ二ツノ葉ノ運動ノ有樣ヲ比較スルニ同樣ナル性質ニシテ而モ同時的ナリ、黃化サレタル二ツノ葉ノ運動ニ多少ノ差アルヲ認メ得タルモ一ガ抗起シ他ガ下垂スルガ如キ事ハ全ク見ラレザリキ、要スルニ葉ノ運動ノ大ナル週期的上下及ビ小ナル震動ハ共ニ一ノ葉ノ狀態ニヨリテ左右セラルヽ者ニアラズ一植物全體ニ渡リテ一定不變ナリ、上記黃化葉ノ運動ハ一種ノ病原的刺戟ニヨルヤモ知レズ、又實驗中ニ免ルベカラザル極少量ノ溫度變化ノ刺戟ニヨルヤモ知レズトノ疑ヒモ有ルベケレド氏ハ其疑ヒノ當ラザルヲ論ゼリ、然レドモ本研究ハ未ダ其發端ニアリ、之ニ就テノ詳細ナル研究ハ今後ニ在リ、氏自ラモ果シテ眞ニ自起的週期現象ヲ是認スベキヤ否ヤヲ斷言シ居ラズ、本研究ノ進行ハ興味ヲ以テ期待セラルベキモノニテ獨乙植物學會ガ費用ヲ給シテ其進行ヲ助ケントスル宜ナルベシ。(Berichte d. Deut. Bot. Gesell.

○プリムラ、オブコニカノ園養史

遠藤保太郎

現今園藝界ニ愛翫セラレツヽアルプリムラ、オブコニカハ元來支那中部ニ產スル野生ノ一櫻草ヨリ變化シ來リシ園藝變種ナルガ其培養ノ起原ハ今ヨリ僅々三十餘年前ニ過ギズト云フ、乃チ一八七九年マリース氏ガ支那旅行中楊子江畔ニ於テフト此櫻草ヲ發見シ其種子ヲ採集シテ英國ニ齎ラシ栽培セルニ濫觴スルナリ當時フーカー氏ハ此植物ニ就テ記載シ其ノ頗ル變化ニ富ム事ヲ附記シケルガ果シテ今見ル如キ雜多ノ變種ヲ生ズルニ至レリ、原種ノ花ハ薄紫色ナルニ培養變種ニアリテハ紅色、桃色、深紅、鶸色、藤色、深紫色ノ彩色ヲ呈スルアリ、純白ナルアリ、花ノ中心部ノ色濃厚ナルアリ、花ノ大サモ著シク差異ヲ現ハシ或變種ハ直徑四五糎ニ及ブ大輪ヲ開ク、又原種ノ瓣緣ニハ一ノ缺刻ヲ存スルモノナルガ其切レ込深ク或ハ淺ク或ハ鋸齒狀トナリテ所謂切レ咲、撫子咲、爪覆輪等ノ花ヲ開キ稀ニハ狂咲トテ花瓣二重三重ニ捩レテ咲クモノサヘ出デタリ、

玆ニヒル氏ノ調査ニカヽル培養年表ノ大略ヲ記サン

(Journal of Genetics. Feb. 1912. 所載)

(一)支那ニ於テ種子ノ採集……一八七九年

(二)英國ニ於テ開花……一八八〇年

(三)初メテ白花現ハル……一八八七年

(四)花ノ中心部色濃キモノ出ヅ……一八八七年

(五)大輪花ヲ生ズ(*var. grandiflora*)……一八九二年

(六)撫子咲現ハル……一八九三年

(七)薔薇色變種(*P. obconica rosea*)出ヅ……一八九五年

(八)純白品現ハル……一八九九年

(九)狂ヒ咲初メテ市場ニ出品セラル……一九〇一年

(十)紅色變種(*Var. Vesuve*)出ヅ……一九〇三年

(十一)小輪藤色變種出ヅ……一九〇四年

(十二)大輪藤色變種出ヅ……一九〇六年

(十三)深紅變種(*Chenies excelsior*)出ヅ……一九一一年

○べにばないんげんノ葉ノ運動

纐纈理一郎

豆類ノ葉ガ所謂就眠運動ヲ爲スハ偏ネク知ラレタル事實ニシテ從來此運動ハ外來ノ刺戟ニヨル誘起運動ナリト認メラレ、ヨシ暗處若シクハ永續光中ニ於テ同樣ノ運動ヲナス事アルモ、ソハ本來誘起運動ナリシモノガ其性質固定シテ自起運動ニ彷彿タル外見ヲ呈スルニ至レルモノニテ一種ノ後作用ニ外ナラズトセラレタリ、曩ニストッペル氏ハきんせんくわノ花ノ開閉運動ニ就テ研究シ其開閉ハ一定不變ノ溫度ノモトニ暗處ニ於テ略二十四時間毎ニ週期的ニ行ハル、ヲ確カメ、或ハ又べにばないんげん

ハ圓クシテ、頗ル、サシ、菌柄ハ漸次ニ菌傘ニ移リ、灰褐色ニシテ、密毛ヲ以テ蔽ハル、長サ二乃至四「ミリメートル」、太サ一・二乃至一・五「ミリメートル」アリ、陸中國江刺郡、藤里村ニ産ス、和川仲治郎氏ノ採集ニ係ル。

○びやうたけ（新稱）

Helotium citrinum(Hedw.) Fries.

（所屬）眞正囊菌門、眞正囊菌區、茶椀茸亞區、菌核病菌科(*Helotiaceae*)、びやうたけ亞科（*Helotieae*）。

子實體ハ朽木上ニ簇生ス、圓盤狀ニシテ、細柄ヲ具ヘ、其形鋲ニ似タリ、圓盤部ハ平滑ニシテ、蠟質ヲ帶ビ、緣邊軟シ、表面ハ橙黃色ニシテ、裏面ハ黃色ヲ呈ス、直徑一乃至三「ミリメートル」アリ、柄ハ黃色ニシテ、長サ〇・五乃至一・五「ミリメートル」、太サ〇・二乃至〇・三「ミリメートル」アリ、八裂子囊ハ棍棒狀ニシテ、八子ヲ藏ム、八裂子ハ無色ニシテ、橢圓形ヲ呈シ、一細胞ヨリ成リ、二個ノ油滴ヲ含ム、長徑七乃至一四μ、短徑三乃至四μアリ、線狀體ハ無色ニシテ、絲狀ヲ爲シ、先端稍膨ル、仙臺ノ林地ニ生ジ、又陸中、上野諸國ニ産ス。

○もみおたけ（新稱）

Thelephora palmata(Scop.) Fries

（所屬）基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、いぼたけ科（*Thelephoraceae*）。

子實體ハ直立シ、數多ノ枝ヲ分ツ、革質ニシテ紫褐色ヲ呈シ、高サ四乃至七「センチメートル」アリ、枝ハ扁平ニシテ、掌狀ニ擴ガリ、先端ニ白毛ヲ帶ブ、子囊層ハ枝ノ周圍全體ニ發達シ、胞子基ハ棍棒狀ニシテ、四個ノ擔子柄ノ上ニ、橢圓形ノ胞子ヲ戴ク、本菌ハ生時惡臭ヲ放ツ、三河國幡豆郡、横須賀村ニ産ス、松崎宇一氏ノ採集ニ係ル。

○きくらげ

Auricularia Auricula Judae (L.) Schröt. = **Hirneola Auricula Judae** Berk.

（所屬）基菌門、眞正基菌亞門、異節基菌區、耳菌亞區(*Auriculariineae*)、きくらげ科(*Auriculariaceae*)、きくらげ亞科(*Auriculariineae*)。

子實體ハ耳狀ヲ爲シ、樹皮面ニ簇生ス、寒天質ヲ帶ビ、乾燥スレバ軟骨樣トナル、長徑四乃至一五「センチメートル」、短徑二乃至七「センチメートル」アリ、外面ハ灰褐色ニシテ、脈皺ヲ具ヘ、柔キ短毛ヲ密生ス、內面ハ平滑ニシテ、上ニ向ヒ、暗褐色ヲ呈ス、子囊層ハ內面ニ發達シ、胞子基ハ横壁ニ由リ、上下ニ重ナレル四個ノ細胞ニ分タレ、各細胞ハ長キ擔子柄ノ上ニ、腎臟形ノ基子ヲ戴ク、基子ハ長徑一四μ短徑六μアリ、仙臺ノ林地ニ生ズ、又本邦各處ニ産シ、小笠原島ニモ産ス（堀正太郎氏採集）、採テ食用ニ供スベシ、本菌ノ熱帶ニ産スル厚キ一形ヲ、**Hirneola polytricha** Fries ト云フ。

Lejeunea ニ屬シタルモノヲ分立セシメタルモノニシテ、其ノ子嚢ハ枝ノ叉分セル所ニアル短キ枝上ニアルヲ以テ、『短キ枝上ニ子嚢ヲ有スル Lejeunea』ト云フ意ニヨリテ、SPRUCE 氏ノ命名セルモノナリ。和名ハ學名ノ意ヲトリテ名ク。

○菌類雜記（一三）

安田篤

○ひめかはきたけ（新稱）

Lentinus dealbatus (BERK.) - **Panus dealbatus** BERK.

（所屬）基菌門、眞正基菌亞門、同蕈基菌區、蠟菌亞區、ほうらいたけ亞科（*Hygrophoraceae*）、ほうらいたけ科（*Marasmieæ*）。

子實體ハ側柄ヲ具ヘ、樹皮面ニ着生ス、菌傘ハ腎臟形ニシテ、革質ヲ帶ビ、乾燥スレバ堅硬トナリ、耐久力ニ富ム、長徑八乃至二二「ミリメートル」、短徑五乃至一五「ミリメートル」アリ、表面ハ極メテ淡キ褐色、或ハ淡黃色ヲ呈シ、平滑ニシテ輪層ハ明カナラズ、裏面ノ菌褶ハ細カクシテ、褐色ヲ呈シ、革質ヲ帶ビ、基子ハ白色ナリ、菌柄ハ菌傘ノ表面ト同色ニシテ、漸次ニ菌傘ニ移リ、稍平タク、裏面ニテハ半圓形ニ擴ガリタル頭ヲ、菌傘內ニ突入ス、菌柄ノ長サハ二乃至一〇「ミリメートル」、太サハ頂ニテハ、二乃至八「ミリメートル」、以下ノ部分ニテハ、一・五乃至三「ミリメートル」アリ、仙臺ノ林地ニ生ズ、又陸中、上野諸國ニ產ス。

○にくけいたけ（新稱）

Polystictus cinnamomeus JACQ.

（所屬）基菌門、眞正基菌亞門、同蕈基菌區、蠟菌亞區、さるのこしかけ科、さるのこしかけ亞科。

子實體ハ、菌傘ト中柄トヨリ成ル、菌傘ハ圓クシテ、漏斗狀ヲ呈シ、海綿質ヲ帶ブ、直徑一。五乃至四「センチメートル」アリ、表面ハ肉桂色ニシテ、輪層ヲ有シ、細カキ放射狀ノ皺襞ヲ具ノ、此皺襞ハ往々隆起シテ、纖維狀ヲ爲ス、裏面ハ濃褐色ヲ呈シ、管孔ハ小サクシテ、多角形ヲ爲ス、菌柄ハ褐色ニシテ、天鵞絨樣ノ密毛ヲ以テ被ハレ、長サ一乃至二。五「センチメートル」、太サ一。五乃至二。五「ミリメートル」アリ、上野、岩代諸國ニ產ス。

○ぬるでたけ（新稱）

Polyporus pœcula (SCHWEIN.) BERK. et CURT.

（所屬）同上。

子實體ハ頗ル小サク、菌柄ヲ以テ樹皮面ニ着生ス、菌柄ハ菌傘ノ背面ニ着クヲ以テ、一方ニ灣曲シ、菌傘ヲシテ點頭シ、子嚢層面ヲ下方ニ向ハシム、菌傘ハ其形圓クシテ、周緣裏面ノ方ニ屈捲ス、直徑四乃至五「ミリメートル」アリ表面ハ灰褐色ニシテ、極メテ細カキ天鵞絨樣ノ密毛ヲ被ムリ、輪層ヲ缺ク、裏面ハ灰褐色ヲ呈シ、管孔

amia ニ似タル蘚ノ意ヲ以テ KINDBERG 氏ガ命名セルモノナリ。但シ兩屬ノ分類上ノ位置ハ遠ク相離レ、其ノ科ヲ異ニス。和名ハ子嚢ノ開口セル狀ニヨリテ名ク。

二八、**Brothera** C. Müll.　**びろうごけ**　（蘚）

蘚類ノ大家芬蘭ノ V. F. Brotherus 氏ノ名ヲトリテ、C. Müller 氏ノ命ズル所ナリ。和名ハ本屬ノ蘚態光澤アリテ軟カニ、其ノ狀びろうどニ似タルヲ以テ名ク、

二九、**Bryum** Dill.　**まむしごけ**　（蘚）

Bryum = βρύον = Payon ノ略ハ希臘語ノ叢生花植物ノ名ナリシガ、後蘚類一般ノ名トナレリ、Dillenius 氏ノ命名ナリ。和名ハ蘚態中模範的ノモノナル意、卽チ「眞ノこけ」ノ意ニヨリテ名ク。

三〇、**Buxbaumia** Hall.　**おやうじごけ**　（蘚）

獨逸ノ植物學者 J. C. Buxbaum 氏ノ名ヲ取リテ Haller 氏ノ命名セルモノナリ。和名ハ本屬ノ模範種タルうちはちやうじごけ（B. aphylla L.）ノ子嚢ト子嚢柄トハ、略ボ丁字狀ヲナスヲ以テ、『丁字蘚』トノ意ヲ以テ名ケタリ。

三一、**Barbella**(C. Müll.) Fleisch.　**むさごけ**。（蘚）

Barbella = barbellae = 短剛毛。本屬ノ葉ハ先端細長クシテ剛毛狀ナルヲ以テ、「短剛毛狀ノ葉アル蘚」トノ意ヲ以テ嘗テ C. Müller 氏 Pilotrichella 屬ノ一群トセルモノヲ近時 Fleischer 氏ニヨリテ獨立ノ屬トセラレタルモノナリ。

和名ハ本屬植物ガ樹枝ヨリ多數懸垂スルノ狀、恰モさかさニぬさヲ懸ケタルガ如キ觀ヲ呈スルヲ以テ名ク。

三二、**Bazzania** S. F. Grey　**むかでごけ**。（苔）

伊太利ノ醫師 M. Bazzani 氏ノ名ヲトリテ、S. F. Gray 氏ノ命名セルモノナリ。本屬名ハ後ニ記スベキ Mastigobryum ノ異名ナリ。和名ハ其ノ葉左右ニ展開セル狀、蜈蚣ニ似タルヨリ吉永氏ノ夙ニ命名セルモノナリ。

三三、**Blasia** L.　**うすばごけ**　（苔）

僧侶ニシテ植物學者タリシ Vallombrosa ノ Blasio Biagi 氏ノ名ヲトリテ命名ス。和名ハ其ノ葉狀體甚ダ菲薄ナルヲ以テ名ク。

三四、**Blepharostoma** S. O. Lindb.　**かへでごけ**（苔）

Blepharo = Blepharon = 總。Stoma = 口。本屬ノ外被膜（Perianth）ハ其ノ口部總狀ニ裂クルヲ以テ、『口部總狀ノ外被膜ヲ有スル苔』トノ意ニヨリテ、有名ナル瑞典ノ蘚苔學者 D. O. Lindberg 氏ガ命名セルモノナリ。和名ハ本屬ノ葉ガ掌狀ニ裂クルノ狀、かへでニ似タルヲ以テ名ク。

三五、**Brachio-lejeunea** Spruce.　**みぞえごけ**（苔）

Blachio = 短キ。lejeunea = Lejeunea = 屬。本屬ハモト

さむしろごけ　（蘚）

Brachy=βραχυ=短キ。thecium=θηκιον=thēkion=vessel 嚢=子嚢。Brachytheciumニ短キ子嚢、本屬ノ子嚢ハ短キヲ以テ（命名當時ノ模範種）、『短キ子嚢ヲ有スル蘚』トノ意ヲ以テ、Ph. Bruch. 及ビ W. P. Schimper 兩氏ガ合議命名セルモノナリ。和名さむしろごけトハ、本屬植物ノ蘚氈ハ扁タクシテ廣ク、其狀むしろヲ敷キタルガ如キヲ以テ、古歌ニ多キこけむしろト云フ語ニ因ミテさむしろノ語ヲ撰ビテ命名セルモノナリ。

二三、**Bryoxiphium** Mitt.　**えびごけ**　（蘚）

Bryo=こけ。xiphium=Xiphos=劍、刀。本屬ノ葉ハ二列ヲナシテ密ニ相接シ、上部ニ向テ長シ、其ノ全形恰モ刀劍ニ似タルヲ以テ、『劍狀ノこけ』トノ意ニヨリテ Mitten 氏ノ命名セルモノナリ。和名ハ本植物ノ全體ハ往々屈曲シテえびニ似タルヲ以テ、既ニ先輩ニヨリテ命名セラル。

二四、**Bryhnia** Kaur.　**をりづるごけ**　（蘚）

那威ノ蘚苔學者 Nils Bryhn 氏ノ名ヲトリテ、Ch. Kaurin 氏ガ命名セルモノナリ。和名ハ本屬植物ノ枝ガ弓狀ニ彎曲シ、地ニ接シテ假根ヲ生ズル狀、恰モをりづるしだノ葉ニ似タルトコロアルヲ以テ斯ク命名セリ。

二五、**Bissetia** Broth.　**つえたてごけ**　（蘚）

本屬ハ本邦特産ノ屬ニシテ、唯一種 Bissetia linglata (Mitt.) Broth. ノミヲ知レリ。本種ハモトめりんすごけ屬（Neckera）ニ屬セシメタリト雖モ、ブロテルス氏ハ其ノ葉ノ構造及ビ緣齒ノ狀態ニ於テ特異ナリトシ、エングレルノ Pflanzenfamilien ニ於テ新屬ヲ設立シ、本邦蘚苔類ノ採集家トシテ有名ナル J. Bisset 氏ノ名ヲトリテ本屬名トセルモノナリ。和名ハ余前年始メテ本種ヲ土佐長岡郡杖立峠ノ絕頂ニ於テ之ヲ採集シ、つえたてごけト假稱セルニヨル。

本屬ノ蘚幀ハ未ダ之ヲ知ラレザリシガ、明治四十四年九月廿七日大日向全龍氏ガ信濃國荒船山ニ採集シタル標品ニハ、完全ナル蘚幀ヲ具フルヲ見ル、其ノ詳細ナル記事ハ別ニ之ヲ錄センコトヲ期ス。

二六、**Bartramia** Hedw.　**たまごけ**　（蘚）

米國ノ植物學者 Bartram 氏ノ名ヲトリテ、Hedwig 氏ノ命名セルモノナリ。語尾 ia ハ Bartram 氏ノ語尾子音ニ終ルヲ以テ特ニ附シタルモノナリ。和名たまごけトハ、其ノ子嚢球形ニシテ玉ノ如クナルヲ以テ名ク。

二七、**Bartramiopsis** Kindb.　**ふうりごけ**　（蘚）

Bartram=Bartramia ヨリ來ル。opsis=似タル。本屬ハモトたまごけ屬ニ編入セラレタルモノヲ獨立セシメタルモノニシテ、其ノ外觀たまごけニ類ス、故ニ『Bartr-

ル、モノヲ、形態學上幷ビニ生理學上同一ノモノナリト斷定スルコトハ不可ニシテ他ノ既知ノ物體モコノ方法ニヨリ染マルヤモ知ルベカラズ、又此ノ染色法ニヨリテ染色セラルベキ未知ノ物體アリトスルモ、其ノスベテヲ直チニ同一ノモノナリトシ同一ノ名ノ下ニ之ヲ總括スルコトハ早計ニアラズヤ、且ツヤ小ナル色素體ノ粒狀、紡錘狀又ハ絲狀ヲ呈スルモノト所謂「コンドミヲゾーメン」トヲ如何ニシテ識別シ得ルヤ等ノ點ニアリトス

コヽニ於テ或ハ LEWITSKY ノ說ヲ贊スル人アリ、STRASBURGER ノ如キハ之ヲ認メ其ノ植物學教科書ニテ明カニ色素體ガ「コンドリヲゾーメン」ヨリ發育スルコトヲ說ケリ、シカルニ一方ニハ植物細胞ニ於ケル「コンドリヲゾーメン」ノ存在ヲ否認スル人アリ、LUNDEGARD ノ如キハそらまめノ根ノ分生組織ノ細胞（Wurzelmeristemzellen）ニ於ケル原形質構造ヲ研究シ、生活セル細胞ニ於テハ通常球狀ヲナセル白色體ガ固定液ヲ滴下スレバ變形シテ引キ延バサレタル如キ形ヲトリ、又互ニ連著シテ念珠狀ヲ呈スルコトヲ認メ、コノ事實ヨリシテ從來植物細胞ニ於ケル「コンドリヲゾーメン」トシテ記載セラレタルモノハ正ニコノ變形シタル白色體ニ外ナラザルコトヲ結論シ、其ノ他各自見解所說ヲ異ニシ今ヤ植物界ニ於ケル「コンドリヲゾーメン」ニツキテハ烏ノ雄雌未ダ頓ニ斷ズベカラザルモノアリ、此ノ時ニ當リ吾等植物學ニ志スモノ一葉ノ舵舟ニ掉シテコノ未知ノ海ニ探ランモ亦一興ナシトセザラン、蓋シ不學ヲ顧ズコヽニ此ノ事ヲ報ズル所以ナリ。

○日本産蘚苔類屬名解說（二）

岡村周諦

二〇、**Barbula** HEDW.　ねぢひげごけ。（蘚）

Barbu = Barba = 鬚。Barbula = 小サキ鬚。本屬ノ緣齒ハ細長ニシテ其狀鬚毛ニ髣髴タルヲ以テ、細小ナル鬚狀ノ緣齒ヲ有スルモノトノ意ニヨリテ HEDWIG 氏ノ命名セルモノナリ。和名ハ鬚毛狀ノ緣齒ガ相集リテ螺旋狀ニ捩ルヲ以テねぢひげごけト名ク。

二一、**Brachymenium** SCHWAEGR.　おちえんごけ。（蘚）

Brachy = βραχυ = 短キ。menium = membran. = 膜。本屬ノ內緣齒基礎膜ハ短キヲ以テ『短キ內緣齒基礎膜ヲ有スル蘚』トノ意ニヨリテ、SCHWAEGRICHEN 氏ノ命名セルモノナリ。然レドモ斯カル短キ基礎膜ヲ有スルモノハ此ノ屬ニ限レルニ非ズ、命名當時ニ知ラレタルモノニ比シテ斯ク命名セルモノニシテ、特ニ其ノ最初ニ命名セル種ニ於テ短カカリシヲ以テナリ　和名ハ本屬ノ外緣齒ハ大抵內緣齒ヨリモ長ク、兩者相列シタル側面觀ハ恰モ段梯狀ヲナシ、其ノ狀落椽ノ如クナルヲ以テ名ク。

二二、**Brachythecium** BRUCH. ET SCHIMP.

Haube)ノ細胞ニ於テハ顆粒狀ニ變ジ、遂ニ里冠ノ先端ニ於ケル細胞ニテハ全ク顆粒狀ヲ呈シ、(4圖)又根ノ皮層(Rinde)ノ細胞ニ於テハ多數ノ顆粒狀又ハ顆粒性絲狀ノモノヽ他ニ大ナル橢圓狀ノモノ存在セリ、コレハ正ニ白色體ニ外ナラズシテ最狀ノ「コンドリヨゾーメン」ガ其ノ兩端膨大シ、中央是ニ反シテ細クナリ行キ遂ニコノ白色體ヲナスモノニシテコノ白色體ハ往々纖細ナル絲ヲ以テ互ニ連結セラルヽヲ見ルナリト

氏ノ用キシ材料ハ *Asparagus officinalis* ニシテ固定液ハ「ベンダ液」(Benda'sche Mischung)ヲ用ヒ、MEVES ノ方法ニヨリ「鋏ヘマトキシリン」ヲ用ヒテ之ヲ染色シタリ、

コノ外ニ氏ハ十「プロセント」ノ「フオルマリン」ト一「プロセント」ノ「クローム酸」トヲ八十五—十五ノ割合ニ混ジタル液ヲ用ヒテ後、錯酸ヲ省キタル「強フレミング液」ヲ以テ之レヲ處理シタルニ其ノ結果ハ同一ナリキト云フ、尙前ニ述ベタル「ベンダ液」ノ處方ハ左ノ如シ、

一「プロセント」「クローム酸」……十五立方糎
二「プロセント」「オスミウム酸」……四立方糎
氷醋酸……三—五滴

氏ハ同ジ材料ヲ酒精醋酸(酒精三容、氷醋酸一容)ニテ固定シ之ヲ「鋏ヘマトキシリン」及ビ「リヒト綠」ヲ用ヒテ染色シ鏡下ニ窺ヒタルニ先ニ「ベンダ液」ヲ以テ固定シタルモノニアリテハ既ニ亞鈴狀ヲ呈シタル「コンドリヨゾーメン」ヲ認メ得ベキ部分ノ細胞ニ於テ一モカヽル體ヲ見出スコト能ハザルニ是ニ反シテ成熟セル色素體ハヨク保存サレタルヲ見タリ、氏ハコレニヨリ「コンドリヨゾーメン」ガ其ノ變化ニ際シ單ニ形態的ノミナラズ尙化學的成分ノ變化ヲモ受クルモノトナシ、シカシテ「ベンダ液」ガヨク「コンドリヨゾーメン」ヲ保存スルハ其ノ醋酸含量ノ極少ナルニヨルモノニシテ醋酸ハ實ニ「コンドリヨゾーメン」ニ作用シテ之ヲ溶解スル性アルモノナルコトヲ云ヘリ、

細說 LEWITSKY ニヨリ色素體ガ「コンドリヨゾーメン」ヨリ發育スルト云フコトガトナヘ出サレシ結果第一ニ其ノ影響ノ及ブハ SCHIMPER 幷ニ A. MEYER ニヨリテ唱導セラレシ「色素體ハ必ズ既ニ存在セル色素體ノ分裂ニヨリテノミ增殖スルモノナリ」ト云フ說ナリ、サレバ MEYER ハ LEWITSKY ノ論文ヲ見ルヤ先ヅ是ニ對シテ一矢ヲ放チタリ、其要ハ LEWITSKY ノ「コンドリヨゾーメン」ト稱スルモノハ單ニ「ベンダ液」ヲ以テ固定シ、鋏ヘマトキシリン」染色法ニヨリ染メラレタル絲狀或ハ顆粒性絲狀或ハ顆粒狀ノ一種ノ體ニ過ギズ、又從來ノ經驗ニヨリ同一ノ方法ニヨリテ同一ニ染色セラルヽモノガ必ズシモ同一ノモノニアラザルコトヲ知ル以上ハ此ノ「ベンダ液」ヲ以テ固定シ「鋏ヘマトキシリン」染色法ニヨリテ染色セラ

ニ際シテハ分裂像ノ周圍ヲ取リ圍ミ却テ兩極ニハコレナク、又體部細胞ニ於テモ花粉母細胞ニ於テモ其ノ分裂ニ際シテハ「コンドリヲゾメーン」ハ決シテ紡錘絲ノ區域内ニ見出サル、コトナシ、次ニ同植物ノ絨氈細胞ニ於テハ「コンドリヲゾーメン」ハ一般ニ紐狀ヲナシ所謂「コンドリヲコンテン」ノ狀態ニアルモノトス、又同植物ノ嫩幼ナルモノ、莖ノ頂點ニ於ケル細胞ヲ觀察スレバ「コンドリヲゾーメン」ガ色素體ニ移リ行ク變化ノ狀態ヲ見ルコトヲ得ベク、先ヅ原初表皮(Dermatogen)ノ細胞ニ於テ

裂ハ桿狀ヲナセドモ(1圖ノa)第二ノ細胞層ニ於テハ先キニ桿狀ナリシ「コンドリヲゾーメン」ガ既ニ兩端膨大ノ傾向ヲ示シ、(1ノb)第三層目ニ於テハ兩端ハ益膨大シ、ソレト同時ニ全體モ又肥大シ亞鈴狀ヲ呈ス(2圖)然シコノ時ニハコレラト共ニ尚未ダ不定ノ形狀ヲナスモノ存在スレドモ、コレヨリ尚内層ノ細胞ヲ窮フトキニハ全ク亞鈴狀ノモノノミヲ認ムベシ(3圖)而シテコノ亞鈴狀ノモノガ色素體ノ分裂像トシテ既ニ知ラレタルモノト同一ナルコトハ一見容易ニ認ムルコトヲ得ベシ、コノ狀態ハ「コンドリヲゾーメン」、一ガ正ニ色素體ニ變ゼントスル時期ニアルモノニシテ次デハ若キ色素體ガ未ダ細胞ノ周邊ニ位置セズシテ尚核ノ周圍ニ群ガルヲ見ルベシト云フ、又氏ニヨレバ形成層ノ原細胞ノ邊ニ於テハ既ニ亞鈴狀トナリシ「コンドリヲゾーメン」ガ細長クナリ行キ、若キ維管束ノ細胞ニ於テハ再ビ長キ絲狀ヲ呈スルニ至ルモノニシテ、コレニ類似ノ現象ハ表皮細胞ニ於テモ認メラレ、且ツ老成セル表皮細胞ニ於テハ「コンドリヲゾーメン」ノ縱裂ガ起リソレガタメニ細胞ハ特殊ノ外觀ヲ呈ス、而シテ氏ハ「コンドリヲゾーメン」ガ染色體ニ類シ時ニ或ハ粒狀トナリ、或ハ絲狀トナリ又縱裂ヲナス等ハコノ兩者ノ間ニ構造上ノ相似アルコトヲ示スモノトナセリ、次ニ根ニ於テハ如何ト云フ原初細胞(Initialzelle)ニ於テハ「コンドリヲゾーメン」ハ絲狀ヲナセドモ根冠(Wurzel-

動ヲ司ル器官ナリト云ヘリ、シカルニ MEVES ハコノ考ヲ適當ナリトセズ、尚脊椎動物ノ胚ノ細胞學的觀察ヲナシ、其結果コノ「ミトコンドリエン」ヨリ筋纖維、神經纖維、結組織纖維其ノ他種々ノモノガ化生スルコトヲ究メ、遂ニ「ミトコンドリエン」ハ遺傳質ヲ帶ブル處ノモノニシテ受精ニ際シ精蟲ノ「ミトコンドリエン」ハ卵ノ「ミトコンドリエン」ト癒合シ、實ニ核ノ性質ハ染色體ニヨリテ遺傳セラレ、細胞質ノ遺傳ハ「ミトコンドリエン」ニヨリテナサルヽモノトセリ、而シテ氏ハ「ミトコンドリエン」ノ物質ヨリナリ桿狀又ハ紐狀ヲ呈スルモノヲ「コンドリヲコンテン」(Chondriokonten) 又ハ「プラストコンテン」(Plastokonten)ト名ヅケ、顆粒狀ヲナスモノヲ「ミトコンドリエン」又ハ「プラストコンドリエン」(plastochondrien)ト稱シ、コノ「コンドリヲコンテン」ト「ミトコンドリエン」トヲ總括シテ「コンドリヲゾメーン」(Chondriosomen)ト名ヅケ、近頃ニ至リテハ氏ハコノ「コンドリヲコンテン」ヲ以テ所謂 FLEMMING ノ絲(Fila) ト同一ノモノナリトシ、「ミトコンドリエン」ヲ ALTMANN ノ顆粒ニ當テ以テ FLEMMING ノ絲狀說 (Fadenlehre) トALTMANN ノ粒狀說(Granulalehre)トノ結合ヲ計ルニ至レリ。

以上述ベ來リタルハ動物細胞ノ「コンドリヲゾーメン」ニツキテノ研究ナルガ、近頃一派ノ植物學者ハコノ「コンドリヲゾーメン」ガ植物細胞ニモ存在スルコトヲ稱ヘ出シタリ、「コンドリヲゾーメン」ノ植物細胞ニ存在スルコトヲハジメテ云ヒ出セルハ矢張リ MEVES ニシテ氏ハ「ひつじぐさ屬」(*Nymphaea*) ノ絨氈細胞(Tapetenzellen) ノ細胞質中ニ「鋏ヘマトキシリン」染色法ニヨリ著シク黑色ニ染マリタル紐狀ノ體ヲ發見シ、コレヲ動物細胞ニ見ル處ノ「コンドリヲゾーメン」ト異ナラザルモノトナシタリ、其他コレニ類似ノモノヲ TISCHLER ハ *Hyacinthus orientalis* ノ絨氈細胞ニ於テ發見シ、ZEHNOW ハ *Hyacinthus* ノ根ノ細胞中ニ同種ノモノヲ認メ、ソノ他 DUESBERG 幷ニ HOVEN ハ *Pisum, Phaseolus, Allium* 及ビ *Tradescantia* 等ニ於テ之ヲ見タルガ LEWITSKY ハ *Asparagus officinalis* ノ種々ノ部分ノ細胞ニツキテ「コンドリヲゾーメン」ノ研究ヲナシ、遂ニ葉綠體、白色體(Leukoplasten)等ガ「コンドリヲゾーメン」ヨリ化生スルコトヲ結論セリ、氏ニヨレバ。アスパラガスノ花粉母細胞 (Pollenmutterzelle) ニ於テハ概シテ不規則ニ彎曲セル紐狀ノ「コンドリヲゾーメン」存在シ、其ノ構造數多ノ顆粒狀體ノ集マレルガ如クナレドモ花粉母細胞ガ第一ノ分裂ヲ了リタル後ニハ「コンドリヲゾーメン」ハ其ノ形態ヲ變ジテ短キ桿狀トナリ、遂ニ花粉ニ於テハ顆粒狀ニ分レ、十分花粉ノ熟スル頃ニハ小サキ氣泡狀ニ變化ス、而シテ體部細胞 (Vegetative Zelle) ノ分裂ノ時ニハ「コンドリヲゾーメン」ハ稍兩極ニ近ク集ル傾向ヲ有スルニ反シ、花粉母細胞ノ分

標本ニ復スベシ、若シ卽時「プレパラート」トナスヲ欲セズバ昆蟲ニ附ケルマヽ綿ニテ包ミ保存シ隨時「プレパラート」ニ仕上グルニ過ギズ

圖ハ二種ノラブルベニヤヲ示ス、一ハ *Laboulbenia texana* Th. 共ニ當地ニテ得シモノニ係ル、本類ニハ數多ノ屬アレド *Laboulbenia* ニ屬スルモノ最モ普通ナリトス、記シテ以テ同好ノ士ヲ得ント欲ス、

○植物細胞ノ「コンドリヲゾーメン」

山川默

ストラスブルガー植物學教科書第十一版（一九一一年出版）ヲ繙クトキハ、其ノ「細胞學」ノ條ニ於テ「コンドリヲゾーメン」（Chondriosomen）ナルモノガ植物細胞ノ細胞質（Zytoplasma）中ニ存在シ、コノモノヨリ色素體（Chromatophoren）ガ化生セラルヽコトヲ述ベアルヲ見ルベシ、植物學教科書ニシテ植物細胞中ニ「コンドリヲゾーメン」ノ存在ヲ說クモノ蓋シコノ書ヲ以テ嚆矢トナスベキガ如シ（同書第十版、一九一〇年出版ニハコノ記述ナシ）。抑「コンドリヲゾーメン」トハ如何ナルモノナルカ、以下少シクコレニツキテ述ベン、

一八八六年 Von La Valette St. George ハ昆蟲ノ雄性生殖細胞ニ於テ一種ノ顆粒體ヲ發見シ、コノモノハ或ハ個々ニ別レテ散布シ、或ハ互ニ多少連續シテ紐狀ヲ呈シ、且强ク光線ヲ屈折スルコトヲ認メタリシガ、其後コノ種ノ顆粒體ニツキテ殊ニ Benda 幷ニ Meves ハ精シキ研究ヲナシタリ、Benda ハ一八九七年ヨリ翌年ニ亘リ種々ノ脊椎動物ノ細胞ニツキテコノ顆粒體ヲ觀察シ、コノモノガ雄性生殖細胞形成ノ際ニ精蟲ニ入リ、所謂中片（Mittelstück）ノ螺旋體ヲナスコトヲ詳ニシ、コレニ「ミトコンドリエン」（Mitochondrien）ナル名ヲ命ジタリ、*Mitos* ハ絲ノ義ニシテ、*χονδριον* ハ顆粒ヲ意味ス、蓋シコノ顆粒體ガ互ニ連續シテ紐狀ヲ呈スル傾向アルコト、コノ名ヲ得タル所以ナルベシ、Benda ハ尙進ンデ種々ノ脊椎動物幷ビニ無脊椎動物ニツキテ研究ノ結果コノ「ミトコンドリエン」ハ單ニ雄性生殖細胞ノミナラズ、一般ニ細胞質ニ富ム細胞ニハ存在スルコトヲ認メタリ、其後一九〇〇年ニ至リ、Meves ハ Benda ノ稱スル「ミトコドンリエン」ト Von La Valette St George ノ所謂「チトミクロゾーメン」（Cytomikrosomen）トガ同一ノモノナルコトヲ確メ、コレ等ノ人々ノ研究ニヨリ動物ノ細胞內ニハ「ミトコンドリエン」ナルモノガ存在スルコト漸ク明カトナリキ、

然ラバコノ「ミトコンドリエン」ハイカナル作用ヲナスモノナリヤト云フニ、Benda ハ始メ（一八九九年）コレニツキテ一ツノ說ヲ出シ、「ミトコンドリエン」ハ細胞ノ運

L. pusilla Thaxter
on
L. Japonica Thaxter
on *Brachinus* sp.
Rhachomyces Philonthinus Thaxter
on *Philonthus gastralis* Sharp
Laboulbenia epicipennis Sharp
L. sp.

扨テソノ寄生ハ昆蟲類中鞘翅類及雙翅類、羽蟻ノ一種及蟻ノ一種ニ限ラレナホ一種ノ蜘蛛モ亦之ガ寄生ヲ受ク、就中鞘翅類中ならむし科ノモノ甚ダ得ルニ易ク且菌量饒多ナリ、みづすまし幷ニ家蠅ノ類亦得ルニ易シ、採集法ハ河原ノ石ヲ起シ或ハ塵塚ヲ發クニアリ、ならむし類ハ容易ニ之ヲ得ベク又ハ網ヲ振ツテ蠅類ヲ得ルニアリ、獲物ハ土塊ノ陰カザル様注意シテトリ例ノ毒壺ニ入レテ殺シ後解剖顯微鏡或ハ強度ノ廓大鏡ニテ驗サバ發見容易ナリ(狀態圖ノ如シ)、時ニハ甲ノ全部又ハ腹面全部ニ附著セルコト無キニアラズ、此處ニ於テカ鏡下ニテヲ針ニテカキ落シ「スライド」上一滴水中ニ投ズ、水蒸發セバ菌ハ十分「スライド」ニ附著ス、ヨリテ弱度ノ「アルコール」ヲ滴下シ後「エオシン」「アルコール」溶液ヲ加ヘ更ニ「アルコール」ニテ洗ヒ「グリセリン」ニテ封ズレバ乾枯ビタル標本ヲ得、然レドモ一二日放置セバ美事ナル

ラブルベニヤ荷ヘル甲蟲(廓大)

×200
Ceratomyces rostratus Thaxter

×60
Laboulbenia texana Thaxter

雜錄　○ラブルベニヤノ記　石川

的内景モ亦漸ク明ナラントスルノ運ニ向ヘリ、サレド熟、按ズルニ既ニ子嚢芽胞ノ時ヨリシテ夙ニ分化著シク且躰ノ幹部ヲ構成スル細胞數及配置ノ一定セルコト（例外無キニ非ズ）其他雌雄生殖器ノ形態等悉ク他ノ嚢子菌ト相違シ優ニ特立ノ一群トシテ取扱ハルベキモノナルガ如シ、嘗テ Engler ノ Syllabus 一九〇七年版ニ於テ之ヲ一群 *Laboulbeniomyces* トシテ嚢子菌ト同格トナシシガ如キハ大ニ適當ナルベキガ如シ、

頃日少シク之ガ採集ニ着手セシガ事案外ニ容易ニシテ保存亦極メテ簡單ナルヲ知リ又形態ノ奇拔ナル鏡下ノ一奇觀タルヲ覺ユルニ至レリ、タヾ其ノ小形（一「ミリ」乃至ソノ十分ノ一）ニシテ處理ニ不便ナルヲ怨ムノミ、尤モ當地ハサクスター氏ノ本陣地、米國ノ一隅ナレドモ母國ノ地亦同樣ナルベキハ多數ノ種ガ日本ヨリ採集セラレタルニテモ知ルヲ得ベキナリ、卽 Memoir of American Academy Arts and Science. Vol XIII, 1908 所載サクスター氏ラブルベニヤ全集ニヨルニ日本産ニカヽルモノハ左ノ如シ、

Dichomyces forcipiens Thaxter

on *Philonthus rectangulus* Sharp

D. hybridus Thaxter

on *Philonthus Lewisius* Sharp

Enarthromyces Indicus Thaxter

on *Pheropsophus sp.*

Laboulbenia proliferans Thaxter

on *Chlaenius pallipes* Gebl

Ch. sp.

Chlaenius bigutttatus Motsch

var. *divaricata* Thaxter

on *Bembus gigas* Bates

L. exigua Thaxter

on *Chlaenius bigutttatus* Motsch

L. Brachiongchi Thaxter

on *Micronys robustus* Mor.

L. vulgaris Peyritsch

on *Bembidium sp*

L. Perosbichi Thaxter

on *Harpalus sp.*

L. flagellata Peyritsch

on *Liptervs microcephalus* Motsch

L. Rougetii Robin

var. *Japonensis*

on *Brachinus sp.*

L. celestialis Thaxter

on *Dichranocus celestinus* Sharp

L. orientalis Thaxter

on *Brachinus scotomedes* Redt.

出來得ル限リ小ニスルコトヲ試ミンガタメ新タニ電磁石ヲ作リ（三十六番ノ絹巻銅線ヲ長サ約一寸五分徑三分ノ鐵心ノ周圍ニ約二千五百回巻キタルモノニ個ヲ厚キ鐵片上ニ幷ベテネジ付ケタルモノ、電氣抵抗約百「オーム」ニ斷續部ヲ白金線ニテ作リ直シ（太キ白金線ヲ有セザリシヲ以テ細キ白金線ノ一部ヲ小「アーク」燈ヲ利用シテ熔カシ球トナシタルモノヲ用ヒタリ）乾電池一個ヲ用ヒタリシニ斷續作用二三日間ハ行ハレタルガ後ニハ作用確實ナラザルニ至リタリ、次ニ電磁石ヲ少シク太キ針金（三十二番線約千五百回）ヲ用ヒタルモノト取換ヘタルニ作用確實トナリタリ、尤モ前ノ電磁石ニテモ電池二個以上ヲ用フレバ充分ナルベシ。余ハ前記繼電器ノ作用不能トナリシ機會ヲ利用シテ上記ノ如キ電流ヲ不斷ニ通ジ置キタル場合ニ槽内ノ溫度何度位迄高マルヤヲ檢シタルニ氣溫二十度ノ時、百六十五度ニ至リテ止マリタリ此際外器ノ外側ニ接シオケル寒暖計ハ五十度ヲ示シタリ。之ニハ一回ノ實驗ノミナルガ之ニヨリテ見レバ繼電器ニ故障アリタル場合ニ於テモ火災ノ恐レハナキモノト見テ可ナルガ如シ。

調節器ニ用フル液體ハ最初充塡ノ便宜上「アルコール」ヲ用ヒタルガ「アルコール」ニテハ粘性大ナルタメナランカ調節作用稍不規則ナル如キ觀アリタル故、後ニ石油ヲ以テ之ニ換ヘタルニ結果極メテ良好ナリ。

○ラブルベニヤノ記

石川光春

囊子菌中特ニ一群ヲナシ他ト離レテ一廓ヲ形成スルモノヲラブルベニヤ（*Laboulbenia*）トナス、形態甚ダ奇ニシテ寧藻類ノ相ヲ呈スルモノアリ、唯寄生生活ヲ營ムト、囊子ヲ形成スルト、之ニ伴フ核動現象ノ類似トニヨリテ之ヲ囊子菌群中ニ配置スルニ過ギザルガ如シ、抑本菌ハ一八五〇年昆蟲學者 Rouget 先ヅ之ヲ記載セシガソノ本性ニツキテハ唯寄生生成物トナスニ過ギザリキ。次デ一八五三年 Robin 之ヲ寄生菌ト認メ Laboulbène 氏ノ名ヲトリ *Laboulbenia* ノ一屬ヲ設ケ Histoir Naturelle des Végétaux ニ於テ二種ヲ記載シ *Pyrenomycetes* 中ニ編入セシニハジマリ、Peyritsch, Karsten ノ二氏ニヨリテソノ囊子ノ存在、生殖、發生等ノ研究セラル、アリテ Karsten ニヨリテ初メ *Mucorini* 中ニ後 *Ustilaginae* ト *Pyrenomycetes* ノ中間ニ置カル、ニ至レリ、然モソノ當時登録セラレシ種數ハ甚少カリシガ前世紀ノ末葉 Thaxter ノ研究以來頓ニソノ數ヲ增加シ且分布ノ極メテ廣大ナルコトモ明ニナリ當今ニテハ五十四屬四百四十餘種ヲ算スルニ至レリ而シテ現時ノ分類法ニテハ先ヅ眞正囊子菌類中ノ一隅ニ座シテラブルベニヤ族ヲ形成シ系統上紅藻類ノ眞正紅藻類ニ甚ダ近クナホ晩近 Faull ニヨリテソノ細胞學

ノ毛細管ニシテDヨリ上端マデ長サハ約十二「センチ」（此長サガ短カキ時ハ使用セザル場合ニ水銀ガCノ方ヘ落ツル恐レアリ）Dヨリ先ハEFノ如ク毛細管ニテ繼ギ置カズシテ直チニ太キ管ニ水銀ヲ入レタルモノヽ中ニ入レ置ク方所定ノ溫度ヲ變ズル場合ニ便利ナルベシ。

繼電器ハ普通ニ用フル型即チEトDトノ間ガ水銀ニテ連ナリ居ル間ハ電氣磁石ニヨリ槓杆ヲ引キ下ゲテ主要電流ノ電路ノ兩端ナル二個ノ水銀盃ノ間ヲ鐵線ニテ連絡セシムル樣ニナセルモノヲ用ヒタリ余ノ假リニ用ヒタル電磁石ハ電鈴用ノモノニシテ比較的大ナル電流ヲ要スル故（〇・二「アンペア」位）電池（乾電池一個ヲ用フ）ノ損失著シヽ、日常用フルタメニハ卷數ノ可成多キ電磁石（例ヘバ實用ノ電信印寫機位ノモノ）ヲ用フベシ又長ク引繼キテ用フル場合ニハ水銀ノ面ノ變化スルタメ故障ヲ生ズルコトアリ（ランド敎授ノ報文中ニモアリ）カヤウナル場合ニハ水銀ヲ廢シテ白金ヲ用フルヲヨシトス。白金ノ得難キ場合ニハ金ニテ可ナリ但シソノ場合ニハ特殊ノ構造ヲ要ス（京都大學ノ白勝報時鈴裝置ノ繼電器ニオケル余ノ經驗ニヨリテイフ）。

本文ノ如キ溫槽二個ヲ行ニ連ネテ（調節器ハ一方ニノミ用フ）繼電器ヲ經テ百「ヴオルト」ノ電極ニ連ネ置キタルニ（所定溫度七十度氣溫二十七度）約一分間電流通ジ次ニ約三分半繼絕シ規則正シク之ヲ反復セリ、之ヨリ所要ノ電力ヲ計算スレバ平均約十六「ワット」トナル。（約四「アンペア」ノ電流ヲ通ジタルニ繼電器ノ作用スルコトナクシテ溫度殆不變ナルコトヲ確メタリ）。

四日間間斷ナク使用ノ結果ニヨレバ最初六十七度ニ調節シタルモノガ一日後ニハ六十九度トナリ二日後ニハ七十度トナリタルガ其後ハ殆ド變化ナシ、コノ變化ハ水銀トガラス管ノ內壁トノ間ニ附著セル「アルコール」ノタメナルベシ、其後六十四度ニ調節シタリシニ十數日間殆ド變化ナシ。

電流ノ斷續ニ伴フ槽內ノ溫度ノ變化ハ〇・五度以下ナリ、前記ノ如キ簡單ナル調節器ニテモ「バラフイン」槽用トシテハ充分ナリトイフベシ。

余ガ實際試用シタルモノノ外器ハ二段ニナシアリテ下段ノモノヲ取出スタメニハ前後ニ半圓形ノ扉ヲ付シタルガ製作費及使用ノ便利ヨリ考フレバ前記ノ如ク同形ノモノ數個トナス方ヨカルベシ前記ノ計算ニヨリ所要ノ電力ヲ白熱炭素電球ノモノト比スレバ本文ノ溫槽四個分ハ十燭電燈一個分ニ相當ス但シ冬期ニ於テハ之ヨリ多クノ電力ヲ要スベキコト勿論ナリ。

附記　上述ノ報文ヲ記シタル後ニ得タル經驗ヲ次ニ附記スベシ

本裝置ヲ實用スルニ當リ最注意スベキハ繼電器ノ作用ヲ確實ナラシムルニアリ、余ハ繼電器ニ要スル電流ヲ

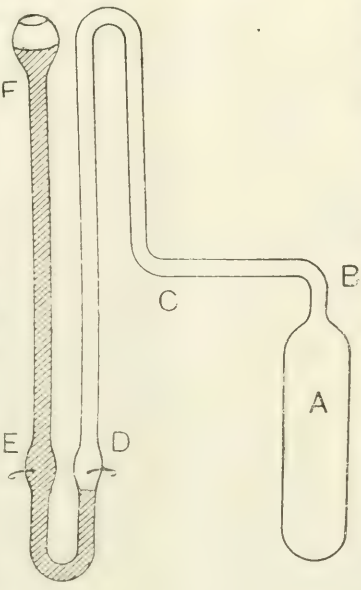
ニハ一樣ノ間隔ニ十個ノ小圓筒（有底、直徑一寸二分深サ一寸）ヲ內面ニ取付ク。外室內ニハ溢レ出デザル位ニ「パラフィン」ヲ入ル。

熱源トナルベキ導線ハ前記ノ小圓筒ノ外面ニ紙ヲ卷キタルニ順次ニ各ノ下半部ニ絹ニテ被覆シタル洋銀線ヲ卷キ付ケタルモノナリ。

此洋銀線ハ余ガ手元ニ有合ハセタルモノヲ用キタルガ廿八番線ニテ一「メートル」ノ電氣抵抗二・八「オーム」アリ之ヲ小圓筒每ニ一重、二十四ヅヽ卷ク、卽チ十個分ノ總長約二十「メートル」アリ電線ノ兩端ヲ外ニ出スタメ器ノ外側ニ上部ヲ少シク切取リ孔ヲ穿チタル絕緣物ヲハメ込ミタリ。

外器ハ直徑八寸、深サ四寸ノ「ブリキ」製ノ盥形ノ器ニテ內面ニ厚ク（一寸位）熱ノ不導體ヲ附著シタル蓋ヲ備フ、

第二圖



器ノ側面ニハ絕緣物ヲ揷メ込ミタル孔ヲ設ケ電線ノ出入口トス。

溫槽ヲ外器中ニ入ル、ニハ外器ノ側面ノ內側ニ三個ノ小サキ鉤ヲ取付ケ置キ絲ヲ用ヒテ針金製ノ三角形ノ框（溫槽ノ移動セザル樣ニ溫槽ノ底面ニ適合スル樣ニ作ル）ヲ吊シ溫槽ノ外面ガ外器ノ內面ヨリ周圍及底トモ丁度等シク隔タリタルヤウニナス、ソノ間隙ニハナルベクユルヤカニ熱ノ不導體ヲ塡ム（余ハ假リニ普通ノ綿ヲ用ヒタリ）。

電氣的調節器トシテ精巧ナルモノ種々アレド精密ナルコトヲ要セズトノコトニヨリ余ガ自ラ假製シタルモノヲ用ヒタリ、ガラスニテ圖ノ如キモノヲ作リD及Eニハ白金線ヲ封ジ置ク、

所定ノ溫度ノトキ丁度Dノ白金線ノ先端ノ所マデ水銀ガ押出サルヽ樣ニ「アルコール」及水銀ヲ充タス

任意ノ溫度ニ適スル樣ニ「アルコール」及水銀ノ量ヲ加減スルコトハ存外容易ニナシ得ラル。

調節器ノ球ヲ溫槽ノ蛇ノ目形ノ蓋ニ特ニ設ケタル孔ニ挾ミ込ミ（ヨリ先ハ外器ノ側面ノ大ナル孔（コノ孔ハコルクニテ閉ヅ）ヲ通ジテ外ニ出シ置ク。

D・Eノ白金線ハ細キ銅線ニヨリ繼電器ノ電氣磁石ヲ經テ電地ノ兩極ニ接續ス。

調節器ノAノ容積ハ約四C.C.、Bヨリ先ハ內徑約二「ミリ」

ヲ來ス恐レアレバ、全葉肉ヲ通ジテ一樣ナル內部氣(Intercellular Atmosphäre)ニヨリテ、葉ノ各部互ニ相呼應シテ其ノ危險ニ對スルノ用意アカルベカラザルニ倚ルナルベシ。

(六)著者ハ尙前記ノ方法ヲ利用シテ一旦萎レタル植物ヲ復活セシムルヲ得タリ、卽チ萎レタル葉ノ內部ノ空氣ヲ除去シテ之ニ水ヲ浸潤セシムレバ、先ヅ細胞間隙ニ入レル水分ハ漸次組織細胞內ニ入リテ其膨壓ヲ增サシメ、葉ハ遂ニ原形ニ復スルニ至ル、此際細胞ガ旣ニ死シ居レバ本方法ノ無効ナルハ言ヲ俟タズ、猶生活シ居レバ、一旦復活セシメテ又之レヲ空中ニ放置シ、其萎縮スルヲ待チテ再ビ同法ヲ試ムレバ、又復活セシムルヲ得ト、此方法ハ花戶ガ實用的ニ用ヒテ利益アルベシ。

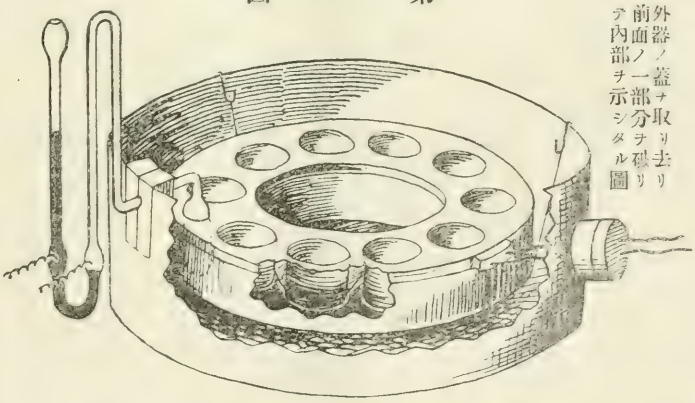
◎雜錄

○新案電氣定溫器

柏木好三郎

製作スルニ材料ヲ多ク要セザルコト及所要ノ電力比較的小ナル點ニ於テ之ヲ新案ト稱スルナリ實際ノ使用ニ當リ便利ナルヤ否ヤハ專門家ノ判斷ニ一任セントス、余ガ學校ノ大賀敎授ノ言ニヨリ在來ノ「パラフイン」爐ハ調節作用ヨロシカラズトイフヲ聞キ余ガ電流ヲ用ヒテ熱スルコト、セバ容易ナルコトナリトイヘル言責ヲ全フセンガタメニ製作ニ著手シ十數日ヲ費ヤシテ成レルモノ乃チコレナリ。

第一圖



外器ノ蓋ヲ取リ去リ前面ノ一部分ヲ破リテ內部ヲ示シタル圖

直徑及ビ高サ共ニ約一寸一分ノ器ヲ數十個同時ニ熱シ得ルヲ目的トス。構造ハ定溫槽本體ト熱ノ損失ヲ防グタメノ外器トヨリナル、コノ外ニ溫度調節器ト繼電器トヲ要ス。

定溫器ハ直徑六寸深サ一寸五分ノ銅板(厚サ約半「ミリ」)製ノ盥形ノ器ノ中央ニ更ニ直徑二寸八分高サ一寸五分ノ圓筒ヲ取付ケテ之ヲ內外二室ニ分カツ、(此內室ハ稍大ナル器ノ「パラフイン」ヲ溫メルモノナリ)。蛇ノ目形ノ冠セ蓋ヲ用キテ外室ヲ被フ。此蓋

シ、老氣孔ハ開閉ノ自由微弱ナレバ午前午後ノ開孔度ニ大差ナケレバナリ。(*Evonymus japonicus, Vaccinium vitis-idaea.*)

(三)葉ノ組織ノ浸潤ヲ完ウセシムルニ要スル壓力低下度ハ、氣孔ノ狀態ニヨリ多少ノ差アルモ、外界ノ條件同一ナラバ一定種ノ植物ニ付テ略一定セリ、例ヘバ

Pelargonium sp. .....70 mm
Phaseolus vulgaris .....30 〃
Fuchsia sp. .....80 〃
Birke (しらかば) .....30 〃
Hainbuche (しで) .....60 〃

(四)針葉ニテハいちゐ、もみ、つがノ如ク多少偏平ナルモノニ於テ最モ有効ニテ、まつノ如キ葉ニハ効果大ナラズ、一般ニ針葉ノ氣孔ハ若キモノハ水ヲ通ス、即チ開口シアルモ、老フレバ水ヲ通サズ、即チ殆ド閉合シテアリ、而シテ水ヲ通サヌ氣孔モ瓦斯體ナラバ通シ得ベシ、即チ今水ヲ浸入セシメ得ザル老針葉モ、人工的ニ穴孔ヲ作レバ直チニ水ハ葉内ニ浸潤スベク、コハ畢竟葉肉内ニ低氣壓アルヲ意味スルニ外ナラズ、從テソハ前ニ排氣ノ際葉内ノ空氣(即チ瓦斯體)ガ氣孔ヲ通シテ外ニ出デタルヲ示スモノナレバナリ、茲ニ於テカ針葉樹ノ生理ニ付テ一ノ疑問アリ、即チ其老ヒタル葉ノ氣孔ハ尚開閉自由ナリヤ、或ハ葉ノ老フルニ從ヒ其氣孔ハ運動性ヲ失フモノナリヤ、著者ノ實驗ニヨレバ、針葉ノ老フルニ從ヒ漸次其氣孔ノ運動性ガ減退スルハ事實ナルガ如シ。

(五)前記ノ方法ニヨリテ吾人ハ氣孔ノ開閉ヲ知ル以外ニ、尚葉肉内ニ於ケル瓦斯體若シクハ液體通過ノ難易ヲ知ルヲ得ベシ、著者ハ此見地ヨリシテ葉ニ二種ヲ區別セリ、第一者ハ前記ノ如キ浸潤作用ハ速カニ、且ツ葉ノ全面ニ渡リテ一樣ニ行ハルヽモノニテ、此場合水ハ氣孔ヨリ入ルモ人工的ノ穴孔ヨリ入ルモ同樣ノ結果ナリ、思フニ此種ノ葉肉ノ細胞間隙ハ全葉ヲ通ジテ互ニ連絡セルモノナルベシ、故ニ今此種ノ葉ノ一部分ニ椰子酪(Kakaobutter)ノ如キモノヲ塗リ、其部ノ氣孔ヲ塞ギ置クモ、浸潤ハ全葉ニ渡リテ行ハル、之レニ屬スルハ常綠ノ針葉又ハ濶葉ニ多シ、第二者ハ浸潤作用葉ノ全面ニ渡リテ同樣ナラザルモノニテ、柔軟ナル草質葉之レニ屬ス、此種ノ葉ノ細胞間隙ハ互ニ區劃セラレタル多數ノ腔ヨリ成レルナルベシ、故ニ此種ノ葉ノ一部分ニ椰子酪ヲ塗リ置カバ、其部ニ限リテ水ノ浸潤行ハレザルナリ、斯ノ如キ二樣ノ葉ノ内部ニ於ケル氣壓ヲ考フレバ、前者ニアリテハ全葉ヲ通シテ同一氣壓ナルベク、後者ニアリテハ葉ノ部分ニヨリテ其氣壓ニ差アルベシ、斯ク考ヘ來レバ葉肉ノ構造ニ斯樣ノ差異アルハ、生態學上何等カノ意味アルモノノ如シ、冬期落葉スルモノニテハ冬ノ乾燥ニ堪フルノ用意ナクモヨカレド、常綠葉ニアリテハ冬期ニ於テ過度ノ水分蒸發作用

新著　○ネーゲル氏『氣孔ノ開閉及ビ人工的膨壓增進』

○ネーゲル氏『氣孔ノ開閉及ビ人工的膨壓增進』

Neger, F. W.:—Spaltöffnungsschluss und künstliche Turgorsteigerung. (Berichte d. Deut. Bot. Gesellsch. Bd. XXX, 1912, H. 4, pp. 179—94)

曩ニモーリッシ氏ガ氣孔ノ開閉ヲ知ル一新法卽チ浸潤試法ナルモノヲ案出セシガ、同法ハ濶葉ニハ比較的有効ニ利用セラレ得ベキモ針葉ニハ何等ノ効果ナシ、本著者ハ之ヲ遺憾トシ其改良ヲ企テタリ、サテ針葉ニモーリッシ氏ノ浸潤法ガ行ハレ得ザルハ何故ナルカ、針ヲ以テ傷ツテ其人工的孔口ヨリ液體ヲ浸入セシメント試ムルモ尙無効ナルヲ見レバ、ソハ氣孔ノ細小ナル所以ニアラズシテ針葉中ニハ液體ノ浸潤ヲ妨グル或抵抗力ノ存在スルヲ意味スルナルベシ、著者ハ玆ニ着眼シ先ヅ葉肉内ノ空氣ヲ除去シ以テ葉内ノ壓力ヲ減ゼシメ、次デ外氣ノ壓力ニヨリテ液體ヲ浸入否寧ロ注射スル法ヲ試ミテ成効セリ、其方法ハ先ヅ葉ヲ帶ベル枝ヲ倒ニ、水ヲ盛レル器中ニ入レ、其切口ハ水上ニ在ラシム、次デ之ヲ排氣器ノ鐘中ニ齎シ、カリテ鐘内ノ空氣ヲ排除ス、此際鐘内ノ壓力ノ減退スルニ從ヒ葉中ノ空氣ハ氣孔ヨリ泡トナリテ出ヅベシ、後再ビ鐘内ニ空氣ヲ導キ、其壓力ヲ外氣ノ壓力ニ復セシムレバ、水ハ氣孔ヲ通ジテ葉肉内ニ押シ入レラレ、其細胞間隙ハ水ヲモテ滿サルヽニ至ル、此際水ガ葉内ニ侵入スル速度如何ハ此試驗ニ於ケル要點ニシテ、同一ノ葉ニテ同一ノ條件ノ本ニ同一ノ方法ヲ行ヒテ水ノ浸潤ニ遲速アレバ、ソハ氣孔ノ開閉度ノ差異アルニヨルベシ、(然レドモ永ク水中ニ在ラシムレバ細胞膨壓ノ增加ヲ來シ、從テ氣孔ノ開度ヲ增ス事アルハ此際無視スルヲ得ズ)充分水ヲ以テ浸潤セラレタル葉ハ恰モ凍レル葉ノ如ク透明トナル、之ヲ以テ浸潤作用ノ完結セルヤ否ヤノ、乃チ浸潤ノ速度ヲ計ルノ標準トナス、勿論本試驗ニハ水以外ノ液體ヲモ利用シ得ルモ、其際葉ノ組織ニ害ヲ及ボス如キ液體ハ用フベカラズ。

此方法ハ針葉ニノミナラズ濶葉ニモ亦同樣ニ使用セラレ得ベキハ言ヲ俟タズ、著者ガ此法ヲ用ヒテ行ヒタル實驗ノ結果ニヨレバ、

(一)新鮮ナル葉ニテハ完全ニ浸潤行ハルヽ場合モ、萎レタル葉ニアリテハ只一小部分ニ於テノミ行ハル、換言スレバ新鮮ナル葉ノ氣孔ハ萎レタル葉ノ其レヨリモ開口度大ナリ。(*Pelargonium, Evonymus japonicus, Fuchsia*)

(二)朝ニテハ浸潤作用ハ概シテ幼葉ヨリモ老葉ニ於テ速ニ行ハレ、午後ハ其ニ反對ナリ、コハ若キ葉ノ氣孔ハ老ヒタル葉ノ其レヨリモ開閉作用圓滑ナルヲ意味ス、卽チ朝ニ於テハ若キ葉ノ氣孔ハ尙閉合シテアルモ、午後ニハ同化作用强盛トナルニ連レ大ニ開口スルニ反

レドモ尚 *Sphaerotilus natans* ノ少許ヲ見ル。ロツテルダムニ下レバ既ニ溢水性及鹹少性藻類。*Coscinodiscus* ヲ出ス。和蘭ヘーグニ下レバ鹹少性浮游生物多キヲ示セリ。而シテ干滿潮ノ影響ニヨリ著シク左右サル。以上研究ニ際シ各所ノ浮游物質（十五分ノ一ノ側壁ヲ有スル目ノ網ニテ濾過ス）ヲ統計シ見ルニ上流ニ於ケル量ハ平坦ナル曲線ヲ表シ下流ニ於テハ極メテ凸凹曲線ヲ示セリ。是下流ニ於ケル水質變化ノ甚シキヲ示スモノナルガカ、ル結果ハ高水注入河及雪解等ニヨリ左右セラル、コト著シケレバ本研究ノ如キ濁水時ニ於テノミ得ラルベキモノナリト云フ。

山部ライン及上部ライン（Hoch- und Oberrhein）ノ容器生物ハ高山湖ノモノニ類シマイン支流ノ生物ハ中部及下部ラインニ跋扈シ著シク腐生的ナリ。是マインノ影響下流マデ及ブニアラズシテ其生活狀態ノ有利ナルガタメナルヲ忘ル可ラズ。

河中浮游生物ノ繁殖狀態ヨリ推下スルニ地質學的事項ハ直接之ニ影響ナキガ如ク水質ト水流ノ動靜如何ハ最重要ナル事項ナリト云フ。卽有機物豐富ニシテ水靜止スレバ浮游生物最多量ナルベキナリ。（H. NAKANO）

○ドポシェグ、ウーラル氏　球根ベゴニアノ早咲キニ就テ』

Doposcheg-Uhlár, J. :— Frühblüte bei Knollenbegonien. (Flora, Bd. IV, H. 3, 1912.)

著者ハミュンヘン植物園ノ溫室內ニ於テ貯藏シ置カレタルベゴニアノ球根ガ會ニ一月上旬發芽セルモノ有リシヲ發見シ、之ヲ仔細ニ觀察セシニ其發生法ニ二樣アルヲ認メタリ、則チ一ハ根ヲ發スル事ナクシテ、花蕾ヲ著生セル莖ヲ抽キ、他ハ數多ノ新根ヲ備ヘ、葉片ノミ發達セル莖ヲ生ゼルモノナリ。

著者ハ吸收器官卽チ根ノ存否ガ此植物ノ營養期ト花期トヲ區分スル主要件ナルベシトノ見解ヲ以テ、先ヅ上記ノ花蕾ヲ著生セル植物ヲ齎シ、濕土ヲ盛レル植木鉢內ニ培養シ、日當リヨキ所ニ曝シ、根ノ發生ヲ促ガセシニ、間モナク花ハ凋落シ之ニ代リテ葉片ノ著シク發育シ來レルヲ見タリ。次ニ根ノ發育ヲ人爲的ニ阻止スル事ニ依リ花期ヲ喚起シ得ルヤ否ヤヲ試驗セント欲シ球根ヲ砂中ニ培養シ、發生セシ根ヲ一週間ニ一回宛截斷シタリシニ二ケ月半ノ經過後概シテ花ヲ開クニ至レリ、然ルニ根ノ生長ヲ許シ置キタル比較材料ハ其當時莖伸ビ葉繁リシノミニテ毫モ花蕾ノ兆ヲ見ズ其後二ケ月ヲ經テ漸ク開花ニ及ビタリト云フ。著者ハ尙溫度濕氣幷ビニ光線ノ花芽發生ニ對スル影響ニ就キテ實驗ヲ重ネ溫暖ナルコト及ビ乾燥セルコトガ其促進法ニ顯著ナル効果ヲ與フル事ヲ證明セリ。（Y. YENDO.）

今ボーデン湖ノ暖氣ニ於ケル水一立方仙米中ノ細菌數ヲ「ゲラチン」培養基上ニ計算スルニ二十—五十個ニシテ略單位容器浮游生物ノ數ト一致セリ。カクノ如ク浮游生物ト細菌トノ生態的平衡狀態ニ於テハ一定ノ數的及營養關係ノ存在スルコト明ナルガ如シ。之ガ說明ニ向テ次ノ型式ヲ呈供シ得ベシト云フ。

	强腐生的 Polysaprob	中腐生的 Mesosaprob	弱腐生的 Oligosaprob
有機物營養	必然的	必然的	隨意的
葉綠素官能	隨意的？	必然的	必然的
浮游生物名	*Euglena viridis*	*Stephanodiscus hantzschianus*	*Sterionella formosa*
一立方仙米中同上ノ數	水ノ華 100000以上	58000 迄	6000 迄
一立方仙米中細菌數	約 1000000	概シテ 100000 ヨリ少シ	概シテ 5000 ヨリ少シ

斯クシテ著者ハ「カンメルプランクトン」採集器ハ細菌研究ト同ク水質ヲ指示スルニ足ルベキヲ言明セリ。

以上ノ表ト比較スルニボーデン湖ハ第三ノ弱腐生的ニシテ中部ライン（Mittelrhein）及下部ライン（Niederrhein）ハ第二階級ニ屬セリト云フ。弱腐生的ノ水中ニ於ケル生物ハ急激ナル變化ヲ見ルコトナキヲ奇トス。卽シユレーター及キルヒネル諸氏ノ研究當時ト本研究トニ於ケル生物トハ極メテ類似スト云フ。

ボーデン湖ヲ出デタルライン河中生物ハ稍漸ク何等ノ變化ナシ。ライン瀧下ニ於テハ稍 *Ceratium hirundinella* ノ微弱ヲ見アーレ河ノ流入ニ於テハ *Oscillaria pubescens* 增加スルヲ見ル。

ビーブリツヒノ左岸ニ於テハ Ludwigshafen（防波堤）マンハイム及マレツ河ノ影響ヲ受ケ *Sphaerotilus natans* ヲ加ヘタリ。ビーブリツヒノマイン河ノ浸入スル右岸ニ於テハ多數ノ生物ヲ加フルヲ見ル。例ヘバ *Stephanodiscus hantzschianus Synedra acus, Dictyosphaerium* 及 *Sphaerotilus natans* ノ流入甚シクマイン水質ノ劣惡ナルヲ指示セリ。ケルン下ニ於テハ腐泥、紙纖維、肉纖維等極メテ多ク水中ニ浮游シニール、フリタールドノ左岸ニ於テハ五十立突水中實ニ三、立方仙米ノ浮游物ヲ現セリ。然レドモ此等モ少許ノ流程ヲヘテ漸次ニ減少シ。チュツセルドルフニ於テハ既ニ〇、八立方仙米ニ下レリ。是輪蟲、甲殼類昆蟲ノ幼蟲及魚類ニ食セラルヽノ外 *Sphaerotilus natans* ニヨリ分解セラルヽモノトス。ライン河岸ニ於ケル獨逸最後ノ都會タルユンメルリツヒニ於テハ既ニ工業地ヲ去レルコト遠キヲ以テ浮游物質左程著シカラズ。然

L. Grayana, MAX, γ. *Maximowicziana*, TAKEDA nom. nov. ニシテ小毛ヲ生ルハ *L. Grayana*, MAX β. *Tschonoskii*, TAKEDA (=*L. Tschonoskii*, MAX; *L. Grayana*, β. et γ. BOISS) ト分類スルヲ至當トナスベキモノナリト云フ。日本ノくろづるハ從來 *Tripterygium Wilfordii*, HOOK fil. トサレシモ之ハ東亞ニテハ臺灣及ビ中央支那等ニ產シ日本及ビ朝鮮ノ產ハ *Tripterygium Regelii*, SPROG. et TAKEDA sp. nov. ナリ其前者ト區別スベキ點ハ葉ハ大形ニシテ厚紙質、先端ハ銳頭ナルカ又ハ漸尖頭ナリ兩側ニハ六―九脈ヲ有シ周緣ノ鈍齒ハ大形ナリ、枝ハ少シク多疣ナルノミニテ無毛ナルカ又ハ粗ニ小毛アリ小枝ハ無毛ナルカ又ハ白毛ヲ生ズ、花序ハ多クノ花ヲ附ケ果實ハ大形翅ハ基部深ク心臟狀ヲナシ先端ハ微凹頭周緣ニハ不整ノ灣入アルコト等ニアリト云フ。(G. KOIDZUMI)

○コルクウィツ氏「ライン河ノ浮游生物」

Kokwitz:— Das Plankton des Rheinstroms von seinen Quellen bis zur Mündung (Ber. d. deutsch. bot. Gesellschaft Heft 4. Bd. XXX. 1912)

著者ハ現時生態學的ニ水質ヲ研究スル熱心ナル學者ノ一人ニシテ先ニ浮游生物ノ定量器ヲ公ニシ此器內ニ採集シ得ル浮游生物ヲ Kammerplankton ト稱シ其性質及多寡ニヨリ水質ノ良惡ヲ判別シ得ルモノナルヲ指摘セシガ（本誌廿六卷三百三號新著紹介「淡水及海洋中單位容器浮生物ニ就テ」參照）本研究モ亦水質研究ニ向テ頗ル注目ヲ値スルモノアリ。本研究ハライン河ノ本流ノ年中最清淨ナル時ヲ撰ビ施行セルモノナリ。卽チ千九百十一年八月廿七日瑞西國ノサン、ゴッタール峯ノトマ湖ヨリ研究ヲ始メ同年九月五日和蘭國ノヘークニ業ヲ終ヘタルナリ。研究方法ハ河中ノ Kammerplankton ヲ採集スルノ外水五十立突ヲ網ニテ濾過シ水中浮游物質ノ多少ヲモ試驗セリ。之ト共ニ現今浮游生物研究ニ際シ必ズ施行サルベキ透明度、水色、水溫、氣溫ノ觀測ヲ行ヘリ。

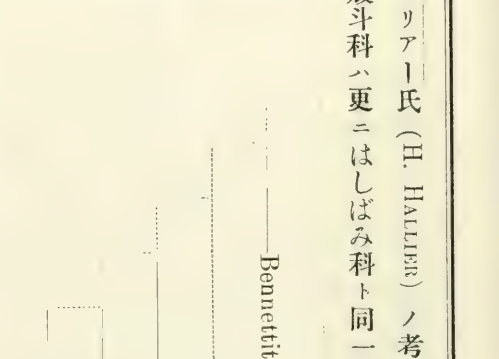
今其結果中特筆スベキ一二ヲ左ニ紹介セントス。前ライン（Vorderrhein）ノ水源タルトマ湖及後ライン（Hinterrhein）ノ注入前ニ於ケル「カンメルプランクトン」ハ共ニ小量ニシテ種類モ少カリシガ浮游物質ハ稍多量ナリキ。然ルニボーデン湖ニ入ルニ至レバ頓ニ浮游生物增加シ浮游物質ノ減少ヲ見從ツテ透明度ノ增加ヲモ見ルベシ。ボーデン湖ノ浮游生物ハ Oligosaprob（弱腐生的）又ハ Katharob（淨生的）ニシテ水ノ表層ニ酸素ヲ供給スルニ大利アルガ如シ。水ノ通氣作用ニ向テ凡ソ幾何ノ酸素成生生物ノ存在ヲ要スルヤ今尙未定ナルモ弱腐生的ノ生物ニアリテハ水一立方仙米中數個モシクハ數十個ニテ充分ナルガ如シ。

○武田氏『東亞産二三ノ新植物及評論』

Takeda, H.:—Notes on some new and critical Plants from eastern Asia.(in Kew Journal,(1912) pp. 214—223.)

本論文ニ於テ氏ハ從來記載サレタル二三ノ植物ニ對シテ精細ナル批評ヲ下シ傍ラ又一二ノ新種又ハ新變種等ヲ發表セリ、先ヅ *Arisaema japonicum*, Bl. ト *A. serratum*, Schott トハ互ニ獨立スベキモノナルヲ指摘シテ曰ク *Arisaema japonicum*, Bl. ハ中央ノ小葉片ハ多少長柄ヲ有シ花篦ノ延長セル附屬物ハ細長ニシテ時ニハ多少先端ニ至ルニ從ヒ細クシテ少ク曲レリ、花篦ノ管狀部ハ圓柱狀ニシテ口部ニ於テ少ク外反シ一般ニ葉身ヨリ長大ナリ、*Arisaema serratum*, Schott ハ中央ノ小葉片ハ一般ニ無柄ニシテ時ニハ短小ナル柄ヲ有スルノミ、花篦ノ延長セル附屬物ハ強直ニシテ先端少ク肥厚シ棍棒狀ナリ、花篦ノ管狀部ハ漏斗狀ニシテ口部ハ大ニ外反シ一般ニ葉身ト同長大ナリ。依之以上二ヲ區別シ得ベシ。又 *Calamagrostis hakonensis*, Fr. et Sav. ガ *C. sachalinensis* Fr. Schmdt ヨリ獨立スベキ點ハ葉ハ乾燥スレバ包旋シ基部ノ外側ニ環狀ノ毛ヲ生ジ葉鞘ニ絹毛ヲ生ジ小舌片ハ主ニ突出シ穎ハ種子ヲ生ゼザルモノト、ニ等長ナリ又穎ノ脊線ハ粗糙ナル等ノ特徴ニアリト云フ。*Calamagrostis deschampsioides*, Thin. var *nana* Takeda, var nov. ハ八ケ岳、東駒ケ岳等ニ產シ其原品ト異ル處ハ葉身ハ長クシテ葉鞘ヲ超過シ種子ヲ生ゼザルモノト、穎ハ少ク不同又芒ハ短小ナルニアリト云フ。*Caltha palustris* L. var. *sibirica*, Rgl. svar *palmata*, Takeda ハ葦葉ハ掌狀ニ缺刻シ又ハ分裂スル新亞變種ニシテ中央支那ニ產スト云フ。*Glaucidium* 屬ハ從來只 *G. palmatum* Sieb et Zucc ノ一種ヲ含ムモノナリシガ此ニ *Glaucidium pinnatum*, Finet et Gagn.(in Bull. Soc. Pot. Fr (1904) P. 391. t. IV, fg. A, a—c.) ト *G. paradoxum*, Makino ナル他ノ二種アルコト發表サレタリ然ルニ著者ノ考察ニヨレバ *G. pinnatum*, l. c. ハ之レ *Hylomecon japonicum* Prantl ニシテ *G. Paradoxum* Mak. ハ *G. palmatum*, S. et Z. ノ偶然ノ一形ナリト云フ、然シテ從來疑シカリシ *Hylrastis jesoensis*, Sieb (Miq. Prol. Fl. jap. 369) ハ亦著者ノ考察ニ依レバ *G. palmatum*, S. et Z. ナリト云フ、日本ノはなひりのき (*Leucothoe Grayana*, Max.) ニハ從 *a. typica*, *β. intermedia*, *γ. Wrightiana*. Boiss. ノ三形區別サレ又別ニほそばのはなひりのき (*L. Tschonoskii*, Max.) ナルモノアリシガ著者ノ考察ニヨレバ以上ハ皆同一種ノ內ニ容ルベキモノニシテ子房ノ無毛ナルモノハ

ハリアー氏（H. Hallier）ノ考察ニ依レバはしばみ科ハ氏ノ所謂廣義ノまんさく科（Hamamelidaceae）ヨリ降下シ殻斗科ハ更ニはしばみ科ト同一祖先ヨリ分化セシモノニテ次ノ如キ關係アリト云フ



此ニ Drimytomagnolieae ト稱スルハ木蘭科（Magnoliaceae）ノ原的性質ヲ有スル想像的一亞科ニシテしきみ亞科（Illicineae）まつぶさ亞科（Schizandreae）及びもくれん亞科（Magnolieae）ト共ニもくれん科ヲナスモノナリ、

（未完）

◎新著

○中井氏『日本こごめぐさ屬ノ新種』

Nakai, T.: — *Euphrasiae novae japonicae.* (in Fedd. Repert. XI, (1912) pp. 33—34.)

左ノ新種四ヲ記ス

Euphrasia Matsumurae, Nakai 日光女峯山、太郎山、八ヶ岳、

Euphrasia Yabeana, Nakai 白馬山ノ產、

Euphrasia nummularia, Nakai 磐梯山、

Euphrasia Leveilleana, Nakai 遠州富岡村ノ產、

(G. Koidzumi)

花ハ雌雄分化ヲナセドモ往々他性ノ不發育體ヲ有スルカ又ハ兩性花ナルコトアリ、喬木ナリ、葇荑花序ハ屢單性ナラズシテ雌花及ビ兩花ヲ以テ成ル、杜頭ハ蟲媒ニ使用スベク風媒ニハ好適ナルモノナシ、心皮ハ初メ腹面ニ於テ完全ニ合生セザルモノアルコト等ノ諸點ハ全然原的ノ性質ヲ遠ルモノニアラズ。

然ルニ花蓋ハ合片ニシテ其數多ラズ、心皮ハ全ク合生シテ全然下位ナルカ又ハ半下位ナリ。花序ハ頗ル複雜ナリ、輪生花ニシテ各輪ノ數ハ少シ、雌雄分化スルコト等ノ諸點ハ之レ進歩セシモノナリ。

内部形態ニ於テハ珠心ハ珠皮ト合生セズ、珠皮ハ相互ニ離生シ管束系ヲ有ス、珠心ハ胞源組織ヲ有スルコト及ビ大芽胞往々一ヨリ多キコト等ハ原的ニシテ珠皮ハ二枚ナルコト珠孔ハ上ニアルコト珠孔授精ヲナスコト等ハ進化セシ性質ナリ

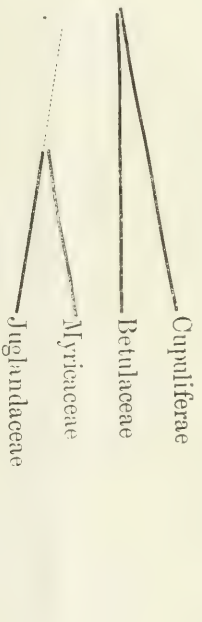
要之ニ殼斗科植物ハ花ハ雌雄分化ヲナシ花被著シカラズ蟲媒ヨリ風媒ノ方法ヲトラントシ花托又ハ小苞ヲ以テ殼斗ヲ形成シ花及ビ幼果ヲ包ムノ方針ヲトリタルモノナレドモ未ダ完全ナラズ果實モ堅果ニシテ分布ニハ良キ形態ニアラズ此ヲ以テ古來繁榮セシ部類ニ非ラズシテ僅ニ屬數六、七ケナリ。而シテ其内部形態ニ原的性質ノ著シキヨリ見レバ双子葉類發展ノ途上甚ダ早ク岐路ニ進入セシモノヽ一ナルベシ。

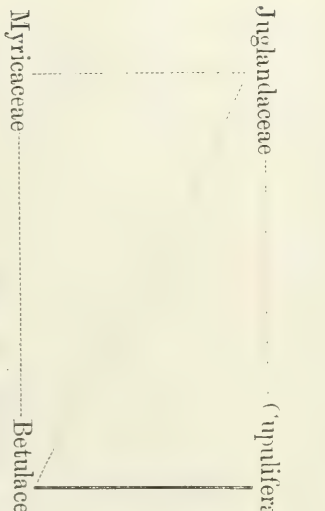
依テ双子葉類系統樹ニ於テハ次ノ如キ一部ヲナスモノナラン

Dicotyledones.
- Casuarinaceae
- Betulaceae
- Cupuliferae
- Juglandaceae
- Myricaceae

くるみ科
子房ハ下位ナリ、
葉ハ羽狀複葉ナリ、
合點授精ヲ行フ、
心皮ハ三ケナリ、
珠柄ハ側方ニ突出ス
珠心ニハ胞源組織アリ、

依テ次ノ如キ親緣關係アルベシ、





第三節　双子葉植物系統上ノ位置

殻斗科ガ双子葉植物發展ノ系統上ノ位置ニ就テ考フル時ニ注意スベキ性質ハ先ヅ外部形態ニ於テハ

シテ珠孔ハ上方ニアリ、果實ハ堅果ナリ

かんば科
- 心皮ハ二ケナリ、
- 珠皮ハ一枚ナリ、
- 雄蕊ハ二裂スルコト多シ、
- 雄花ハ苞ト合生ス、
- 花被片微小ニシテ全ク退化シテナキ事多シ、
- 合點授精ヲナス、
- 果實ノ有スル總苞狀體ハ苞及ビ小苞ノ合生シテ成レルモノニシテ大形ノ葉狀苞又ハ鱗片ヲナス、

殼斗科
- 心皮ハ三ケ稀ニ六ナリ、
- 珠皮ハ二枚ナリ、
- 花被片ハ六ケニシテ稀ニ減數スルノミ、
- 珠孔授精ヲ行フ、
- 果實ノ殼斗ハ花托或ハ小苞ノミヨリ變成セルモノナリト云フ、

二、心皮ハ二又ハ三ニシテ複子房ハ一室ナリ、胚珠ハ底部ニ一ケ直立ス、珠皮ハ一枚ナリ、果實ハ核果狀ナリ、雄花ハ苞ト合生ス、

やまもゝ科
- 子房ハ上位ナリ、
- 葉ハ單葉ナリ、
- 珠孔授精ヲ行フ、
- 心皮ハ二ケナリ、
- 大芽胞母細胞ハ一ケヲ生ズ、

二、多クハ風媒花ナルコト
三、苯黄花序ヲ有スルコト
四、單被花ナルカ又ハ花蓋ヲ有セザルコト、
五、珠皮ハ相互ニ離生シ管束系ヲ有スルコト、
六、胚珠ハ珠孔ヲ上方ニ有スルコト、
七、花ハ單性ニシテ一家花ナルコト、

等ニアリ、尚内部形態ニ就キ本科ト以上各科トヲ一々比較スレバかんば科トハ其一致スル點ハ珠皮ハ離生シ管束系ヲ有シテ屬ノ如キハ二枚ノ珠皮ヲ有スルコト珠孔ノ位置ハ上ニシテ胚珠心内ニ胞源組織ヲ生ルコト等ニシテ其一致セザル點ハ多クハ一枚ノ珠皮ヲ有シ合點授精ヲ行フニアリ。くるみ科ノ本科ト一致スル點ハ珠皮ハ離生シ管束系ヲ有シ胚珠心ハ胞源組織ヲ有スルコトニシテ一致セザル點ハ合生子房ハ一室ニシテ底部ニ直立スル一ケノ胚珠ヲ有シ、珠柄ノ組織ハ胚珠ノ兩側ニ突出シ、一枚ノ珠皮ヲ有スルコト及ビ珠孔ニ微小鈍齒アルコト授精ハ合點授精ナルコト等ナリ。やまもゝ科ノ本科ト一致スル點ハ珠皮ハ離生シ管束系ヲ有スルコトくり屬ノ如ク胚珠心ニ中央管束系アルコト珠孔授精ナルコト等ニシテ一致セザル點ハ二枚ノ心皮ヨリナレル合生子房ハ一室ニシテ底部ニ直立セル一ケノ胚珠ヲ藏スルコト珠皮ハ一枚ナルコト大芽胞母細胞ハ常ニ一ケナルコト等ニアリ。然シテ尚此ニもくまわう科トモ比較スレバ胚珠心内ニ胞源組織ヲ有スルコト大芽胞數ケヲ生ルコトくり屬ノ如ク胚珠心ニ中央管束系ノ存在スルコト等ハ其一致スル點ニシテ珠皮ハ合生セルコト合點授精ナルコト等ハ其一致セザル點ナリ。

サレバ之等ハ次ノ如ク排列スルコトヲ得ベシ、

一、心皮ハ二、三、稀ニ六ケニシテ複子房ハ二、三、稀ニ六室ナリ胚珠ハ各室ニ二ケ中軸胎座ニ附著シ垂性倒生ニ

puliferae) ヲ對立セシメ(エンドリッヘルヱ. Endlicher 1836—40;)アイヒラー A. W. Eichler 1876—80.) 又之ヲかし科 (Quercineae) ナル名目ノ下(ブロンニアー A. Brongniart, 1843.) 或ハはしばみ科ナル名目ノ下(リンドレー J. Lindley, 1845.) ニ對立セシメタリ。

次ニデカンドル氏(1864);ドルーデ氏(O. Drude, 1887.)ワーミング氏 (E. Warming, 1901.) ノ諸氏ハ殼斗科 (又ハ山毛欅科) ニはしばみ科ト樺木科トヲ對立セシム。

一千八百八十年ベンサム (G. Bentham)フッカー (J. D. Hooker) ハ殼斗科中ニ樺木族はしばみ族及びかし族ヲ置ク。一九〇四年ポスト(T. Post) オットークンツエ (O. Kuntze)ノ二氏ハ栗科 (Castaneaceae) ナル名目ノ下ニはしばみ族 (Corylaeae) 樺木族 (Betuleae) ぶな族 (Fagaeae)及びかし族 (Quercaeae) ノ四族ヲ容レタリ。

一八九七年エングレル(A. Engler)氏ハ山毛欅科ト樺木科トヲ對立セシメ一九〇八年ウエットスタイン氏 (R. v. Wettstein) ノ分類學ニモ之ヲ採用セリ。

第二節　他科トノ關係

古來らくはう科 (Casuarinaceae) やなぎ科 (Salicaceae) ユリアニア科 (Juliannaceae) くるみ科 (Juglandaceae) やまもゝ科 (Myricaceae) ぶな科 (Fagaceae = 殼斗科 (Cupuliferae) 及びかんば科 (Betulaceae) ヲ一括シテ葇荑花序群 (Amentiferae) トナセシモノナルガ其内近世ニ於テモ相互ノ間ニ最モ親緣アリト見做サルヽ諸科ハ

Fagaceae. A. Br.(=Cupuliferae, DC)

Amentiferae { Betulaceae. / Myricaceae. / Juglandaceae.

ノ四科ニシテ之等各自ノ相似タル點ハ

一、喬木ナルコト、

ル。花蓋(Perigonium vel Perianthium)ハ六裂シ裂片(Tepala)ハ二列ヲナシ花蕾ニ於ケル發狀ハ覆瓦狀ヲナス花蓋筒ハ普通子房ト合生ス。雄蘂ハ十二ケナレドモ暫其減數シ又ハ增加ス、葯ハ側着又ハ底着二室ヨリ成リ成熟スレバ縱裂ス、花絲ハ細絲狀ニシテ直立又ハ下垂ス。心皮ハ三ケ稀ニ六ケナリ、子房ハ合生複子房ニシテ下位ナリ(初メ三ケノ各子房ハ其脊面花蓋筒ト合生シ各ハ下部僅ニ相互合生ヲナシ腹面ノ上部ハ相互ニ離生スレドモ成熟スルニ從テ腹面上部モ相互合生ヲナスニ到ルモノ多シ)三室ヨリ成ル各室ニハ二ケノ胚珠ヲ藏ス、胚珠ハ中軸胎座ニ附著シ垂生ニシテ幷行ス倒生ニシテ二枚ノ珠皮ヲ有シ各ハ離生ス、脊(Raphe)ハ腹面、珠孔ハ上方(Epitropous)ニアリ、胚珠心ハ珠皮ト合生セズ、珠皮ニ管束系アリ、胞源組織ハ數ケノ細胞ヨリ成リ往々數ケノ大芽胞ヲ生ルコト多シ、授精ハ珠孔授精ナリ。花柱ハ三ケ稀ニ六ケニシテ離生シ柱頭ハ點狀又ハ扁クシテ盤狀ヲナス稀ニハ毛ヲ生ズ。果實ハ堅果(Glans)ニシテ極テ稀ニ翅ヲ有シ一ケノ種子ヲ藏ス、總苞ハ一般ニ殼斗狀ヲ呈スレドモ亦蒴狀ヲナスモノアリ。種子ハ無胚乳ニシテ種皮ハ薄膜質ナリ、胚ハ倒生ニシテ子葉ハ肥厚シ平凸形ヲナスカ褶襞狀ヲナス幼根ハ上方ニアリ。落葉又ハ常綠ノ喬木ニシテ葉ハ互生シ單葉ニシテ羽狀脈ヲ有シ膜質厚紙質又ハ革質ナリ。托葉ハ稀ニ之ヲ缺ク。葇荑花序ハ單性ナルカ又ハ雌花及ビ雄花ヲ以テ成リ長穗狀ヲナスカ又ハ頭狀ナリ、雌花ハ多クハ一—三ケヅヽ、群ヲ成シ各ハ同一又ハ特別ノ殼斗內ニ座シ共ニ一ケノ苞及ビ二ケノ小苞ヲ有ス。雄花ハ一苞內ニ一—三—七ケヅヽ、群ヲ成シ各花叢ニ二—四ケ位ノ小苞ヲ認ム。

第二章　分類學上ノ位置

第一節　從來ノ考察

初メリンネ氏(C. v. Linnaeus 1763.)ジュシュー氏(A. L. v. Jussieu 1789.)デカンドル氏(A. de Candolle 1813.)等ノ著書ニハ木麻黃屬(Casuarina)楊梅屬(Myrica)胡桃屬(Juglans)楊柳屬(Salix)樺木屬(Betula)赤楊屬(Alnus)ノ各屬ト近世ノ山毛櫸科(Fagaceae)ノ各屬トヲ一括シテ葇荑花序科(Amentaceae)トナシタリ。

次ニ赤楊屬及ビ樺木屬ヲ含ム樺木科(Betulaceae)ニ近世ノはしばみ科(Corylaceae)ト山毛櫸科トヲ含ム殼斗科(Cu-

第九圖　冬芽

（一）くぬぎ　（二）あらかし　（三）いちひがし　（四）かしわ　（五）あなならノ如キ觀ヲナス、尙之等ノ腋芽ヨリ以下次位ヨリ第五位邊マデノ葉腋ニモ各一ケノ腋芽ヲ生ズ其以下ノモノニハ生ゼズ、冬芽ニハ二型アリ一ハあらかし、あべまき、うばめがし、くぬぎ、こなら、あをなら、ノ如ク芽鱗ハ五列ヲナシテ各ハ稍同一圈上ニ幷列スルモノト其二ハいちひがし、しらかし、あかがし、かしはノ如ク卵形又ハ卵狀橢圓形ヲ呈シ芽鱗ハ三列ヲナシテ著シク螺旋形ニ排列スルモノナリ。

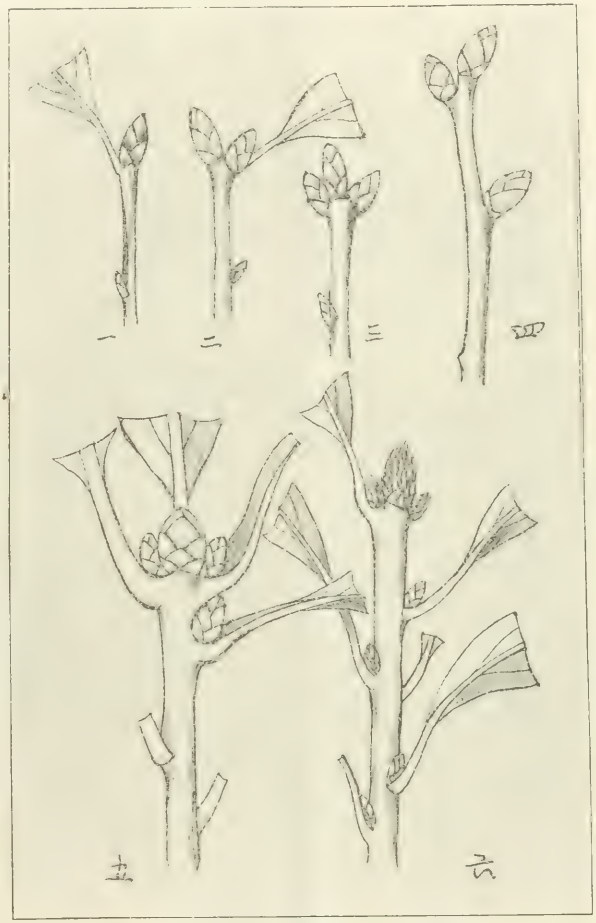
第二編　殼斗科植物分類

第一章　分類學上ノ性質

花ハ單性花（Unisexuales）ニシテ一家花（Monoeci）ナリ、輻射花（Actinomorphi）ニシテ單被花（Monochlamydei）ナリ、輪生花（Cyclici）ニシテ異數ヲ以（Heteromeri）テ成

芽ヲ生ズ、之等ノ三芽ハ皆發綻シテ小枝ヲ生ルカ又ハ頂芽ト之ニ近キ一ケノ腋芽ガ發生シテ小枝ヲ形成ス、(第八圖ノ四)。

まてばしひ、(第八圖ノ五)、しりぶかがし(同六)ニアリテハ卵形ノ芽ニシテ鱗片ハ皆螺旋狀ニ排列シしりぶかがしノモノハ披針形ニシテ急ニ殼斗ヲ有スまてばしゐノモノハ綠色ニシテ厚キ革質ナリ、各ハ一ケノ頂芽ノ兩側ニ小



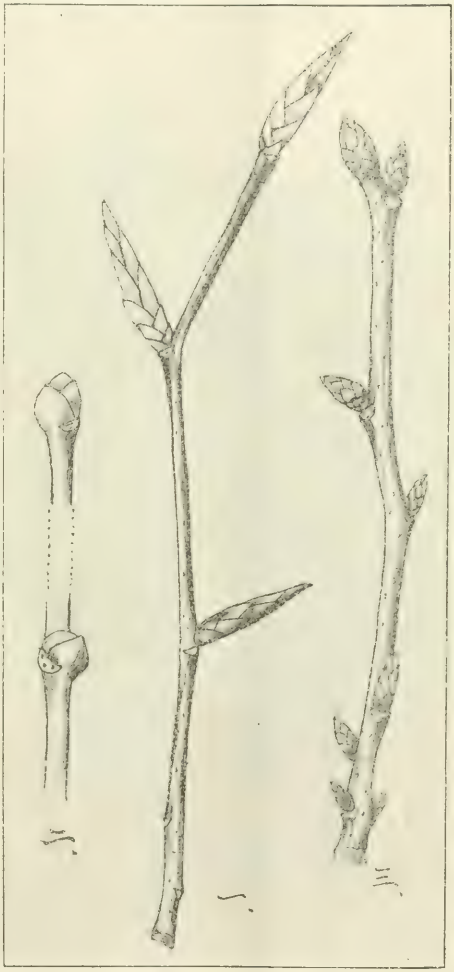
第八圖　冬芽

(一—三)ひーぐり屬
(四)しひのき
(五)まてばしひ
(六)しりぶかがし

形ナルニケノ腋芽ヲ生ジ尙其下次位ニアル葉腋ニモ一ケ又ハ二ケノ腋芽ヲ生ズ、頂端ニ幷列セル三ケノ芽中頂芽ノミ發生シ又ハ下位ノ二腋芽モ各發達シテ小枝ヲ形成ス、

かし屬、(第九圖及ビ第七圖ノ三)枝條ノ先端ニ一ケノ頂芽ヲ生ジ其周位ニ數ケノ腋芽アリテ恰モ副芽(Accessory bud

ノ葉腋ニ生ジタル者ハ頂芽ニ代リテ長軸ノ生長ヲ司ル、芽ハ皆葉痕ノ側上方ニ生ジ相互ニ螺旋狀ノ位置ニアレドモ其度小ナルガ故ニ稍二方向ニ相幷ビタルガ如シ、初メ卵形ニシテ三—四ミ、メ、アリ冬期ニハ細長ニシテ先端尖リ長サ十—二三ミ、メ、アリ鱗片ハ最外部ノ者ハ卵圓形卵形ヲナシ小ナレドモ內部ノ者ハ長橢圓形又ハ線狀長橢圓形ヲナシ褐色ヲ呈シ乾燥セル革質ナリ發綻スレバ黃褐色ノ密毛ヲ生ゼル篦形ノ鱗葉(Cataphylla)著シク現ル、(第七圖ノ一)くり屬、芽ハ皆葉腋ニ生ジ葉痕ノ直ー上ニ位ス卵形ニシテ先端ハ圓シ普通二ミメ、ノ長サヲ有スレドモ頂上ノモノハ三ミ、メ、アリ、鱗片ハ廣キ卵圓形ヲ呈シ褐色ニシテ乾燥薄膜質ナリ外部ニ現ルヽハ只二又ハ三ケナリ、(第七圖ノ二)



第七圖　冬芽

(一)　ぶな屬
(二)　くり屬
(三)　あべまき

ひしぐり屬、枝ノ頂端ニ一ケノ頂芽ヲ生ジ其側ニ一ケ又ハ二ケノ腋芽ヲ生ズ各ハ皆生長シテ小枝ヲ成ス(第八圖一—三)。

まてばしひ屬、しひ屬ニアリテハ卵狀橢圓形ノ芽ニシテ頂芽ハ四ミ、メ。腋芽ハ二—四ミ、メ、アリ、鱗片ハ綠色卵形ニシテ厚キ革質ナリ螺旋狀ニ排列ス、枝端ニ一ケノ頂芽ヲ生ジ其直下ノ葉腋ニ一ケ及ビ其次位ノ葉腋ニモ一ケノ腋

皮ハ平滑ナルカ又ハ縱裂ス、獨生シテ盛ニ分枝スレバ木幹ヲ認メ難キニ到リ樹冠ハ地上ニ接シテ卵狀半球狀卵圓狀又ハ圓錐狀ヲナス單幹ヲナストモ盛ニ下部ヨリ萠芽ス、芽ハ枝ノ頂端附近ニ數多生ルヲ以テ小枝ハ一所ヨリ四方ニ發出スルガ如キ狀ヲナス。

落葉かし類ハ孤立セルモノハ短大ナレドモ林木ヲナス時ハ長キ單幹ヲナシ直徑二尺—五尺高サ四十—九十尺ニ達ス

樹皮ハ縱裂ス、小枝ハ前年ノ枝端ヨリ四出スル狀ヲナス樹冠ハ橢圓ヨリ長橢圓形ヲナス。

常綠かし類ノ孤立セルモノニアリテモ單幹ヲナシ直徑一—五尺高サ三十—百尺ニ達ス幹ノ下部ヨリ枝ヲ生ジ垂下スルヲ以テ樹冠ハ大ナル橢圓又ハ長橢圓ヲナシ外ヨリ本幹ヲ認メ難キコトアリ樹皮ハ平滑ナレドモ老大セルモノハ縱裂シ又橫裂ス林木ヲナス時ハ單幹眞直ニシテ眞ノ樹冠ヲナス、小枝ノ分岐法ハ落葉かし類ニ同ジ。

第三節　葉

殼斗科植物ノ葉序ハかし屬ヨリしひ屬等ニテハ二ニシテぶな屬くり屬等ニテハ一ニシテ互生ナリ、熱帶ヨリ亞熱帶ニ產スルひしぐり屬、まてばしひ屬、常綠櫟亞屬（Cyclobalanus）ノ如キハ皆常綠革質ニシテ殆皆全緣葉ヲ有シ溫帶ノくり屬ぶな屬ひしぐり屬、橢櫚亞屬、櫟亞屬、及ビ針狀鋸齒葉亞屬（Erythrobalanus）ノ如キハ膜質又ハ厚紙質ニシテ鋸齒ヲ有シ又ハ羽狀ニ數裂ス。

葉柄ハ之ヲ有スルヲ普通ナレドモ極テ稀ニ甚短縮スルカ又ハナキモノアリ。托葉ハ著シカラズ一般ニ早落性ニシテ只芽ニアリテ鱗狀ノ保護葉（Cataphylla）タリシモノガ葉ノ未幼キ間托葉狀ヲナシテ附著スルヲ見ルノミ、

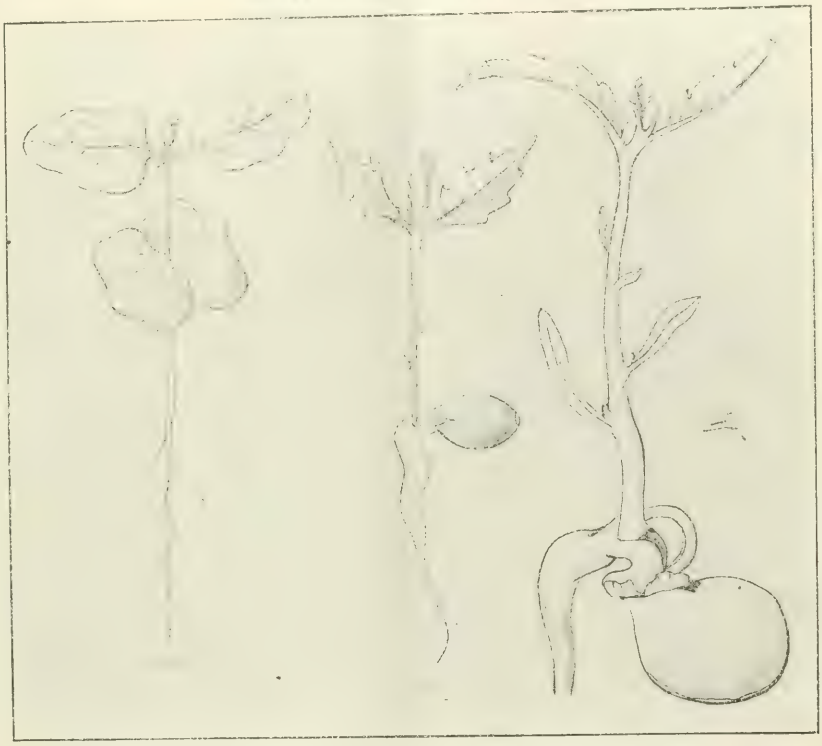
葉身ノ葉脈ハ皆羽狀脈ニシテ葉面ハ平滑無毛ナルモノアレドモ微毛小毛ヲ有シ時ニハ剛毛密毛ヲ有スルコトアリ或ハ小鱗片又ハ粉狀體ニテ被ルヽコトモアリ

葉芽ノ發狀ハぶな屬かし屬ニテハ摺襞狀（Plicate）ニシテくり屬まてばしひ屬ニテハ摺合狀（Conduplicate）ナリ。

第四節　芽

ぶな屬、一年間ニ伸長セシ枝ハ多ク五—七ケノ葉ヲ互生シ芽ハ其上方ノ三—四葉ノ腋ニ形成サル皆腋芽ニシテ枝頂

第六圖　三種ノ幼苗



（一）ぶな屬　（二）かし屬　（三）くり屬

第二節　樹幹、分枝及ビ樹冠

殼斗科植物ハ皆多クハ高大ナル喬木ナリ樹枝ハ擴張シ孤立シテ十分老成セルモノニアリテハ樹冠ノ直徑百尺ニ達スルモノアリ、分枝法ハ多ク單生（Monopodium）ナリ。

ぶな屬ハ單幹ヲ有シ眞直ニ生長ス直徑二―五尺高サ五十―九十尺ニ達ス樹皮ハ平滑ナリ、枝ハ今年生ジタルモノヨリ三ケヲ生ジ一ハ長軸ヲナシ他ハ側枝ヲナス、樹冠ハ卵狀又ハ半球形ヲ呈ス。

くり屬ハ單幹ヲナスコト殊ニ稀ニシテ直徑二―五尺高サ五十―百尺ニ達ス樹皮ハ縱裂ス、極テ擴大セル枝ヲ生ジ樹冠ハ廣橢圓形ナリ。

まてばしひ屬ハ獨生スルモノハ下部ヨリ盛ニ分枝シテ單幹ヲナスコト稀ナリ、林木ヲナス時ハヨク直徑二―五尺高サ四―七、八十尺ニ達ス、樹

實ヲ包ミ之ト大部分癒合シテ只先端ノミ離レ頂上ハ圓キ口ヲ開キ成熟スレバ此開口ヨリ不規則ニ少ク裂クルモノアレドモ果實ハ皆殼斗ヲ附著セシマヽ落下ス、環成殼斗亞屬（Cyclolalanus）鱗成殼斗亞屬（Eupasania）及ビかし屬ニテハ殼斗ハ卵チ固有ノ椀狀殼斗（Cupula）ヲナシ果實ハ其上ニ座スルガ如ク成熟スレバ相共ニ離レテ落下ス。ぶな屬ノ殼斗ハ外面ニ數多ノ鱗片ヲ生ジ果實ハ四面體ヲナシテ二ケツヽアリ、くり屬ひしぐり屬ニテハ殼斗ノ外面ニ分枝セル棘ヲ生ズ果實ハ一—三ヲ容ル、ひしぐり屬ノ殼斗ニハ棘ノ代リニ小瘤狀乳頭狀又ハ鱗片狀ノ突起トナリ甚ダしひ亞屬及ビ閉果亞屬ノ殼斗ニ類似シ來ルモノモアリ、しひ亞屬ノ殼斗ハ普通ハ稍帶狀ニ集レル鱗片ヲ有スレドモ其鱗片ヲ生ゼザル時ハ相幷行セル輪層帶ヲ生ジ頗ル閉果亞屬ノ殼斗ニ一致シ來ルコトアリ、環成殼斗亞屬及ビ常綠樫亞屬（Cyclobalanopsis）ノ殼斗ハ數多ノ環狀ノ輪層帶ヨリナルガ之等ハ皆鱗片ノ全然層狀ニ癒合シテ成リシモノナレバ閉果亞屬又ハしひ亞屬ヨリ誘導シ得ベシ、鱗成殼斗亞屬及ビ楢櫟亞屬（Lepidobalanus）櫟亞屬（Ceris）及針狀鋸齒葉亞屬（Erythrobalanus）ノ殼斗ハ皆鱗片ヨリナルガ之亦前記ノ二亞屬ヨリ誘成シ得ルナリ。

種子ハ其形狀ハ外果皮ノ形ト一致ス無胚乳ニシテ種皮ハ薄膜質ナリ、胚ハ大形ニシテ果實內ノ全部ヲ充ス、子葉ハ肥厚シ幼根ハ上方ニアリ、ぶな屬ノ子葉ハ褶曲シ閉果亞屬ノモノハ數ケ淺裂ス他ハ平凸形ナリ。

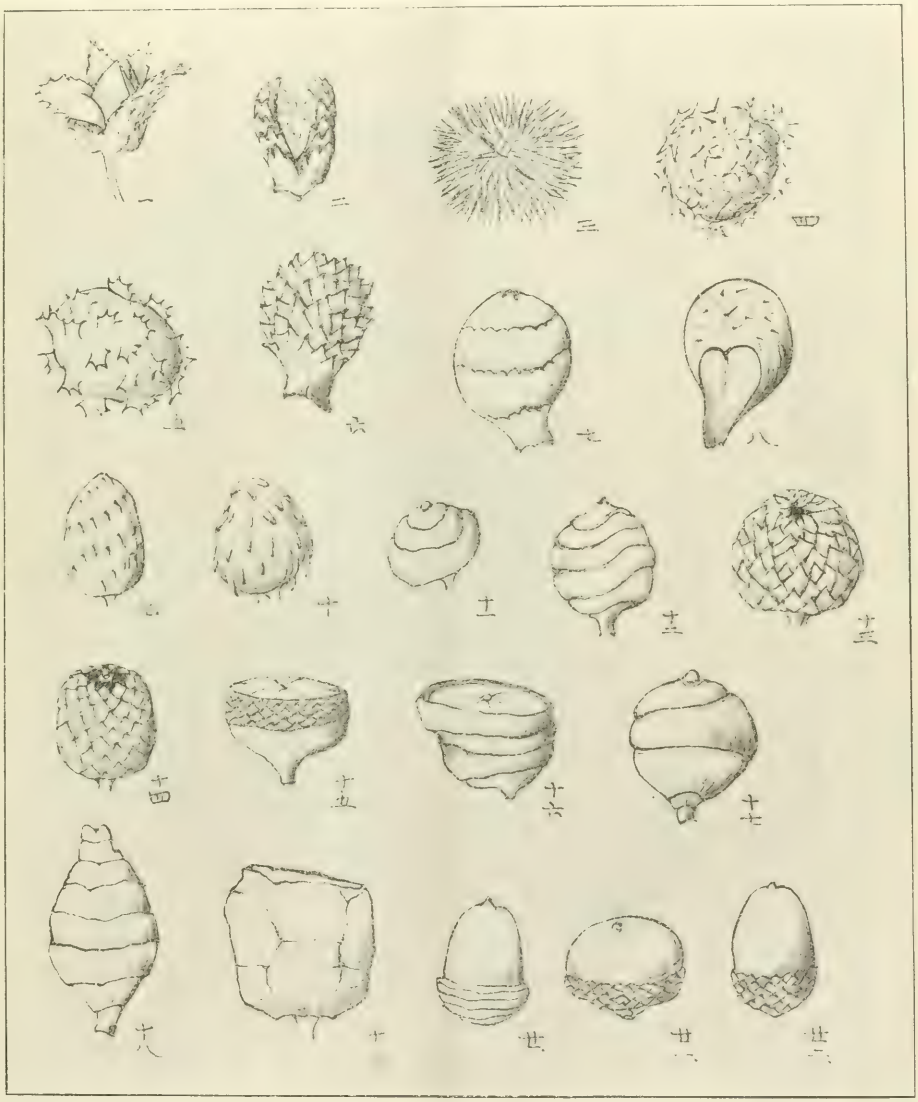
第二章　營養器管

第一節　發芽及ビ幼苗

ぶな屬、（第六圖ノ一）　種子發芽スレバ地上ニ二枚ノ子葉ヲ現ス對生ニシテ扇狀ヲナス全緣ニシテ基脚少シク耳狀ヲナス幼莖幼根胚軸共ニ一直線ヲナシテ直立ス、最初現ルヽ二葉ハ對生シ第三葉以下ハ互生ス。

えてばしひ屬かし屬、（第六圖ノ二）　子葉ハ發芽ノ際地下ニ殘リテ果皮內ニアリ最初ニ生ル數葉ハ鱗片狀ニシテ乾キタル薄膜質ヲナシ互生ス早落性ナリ

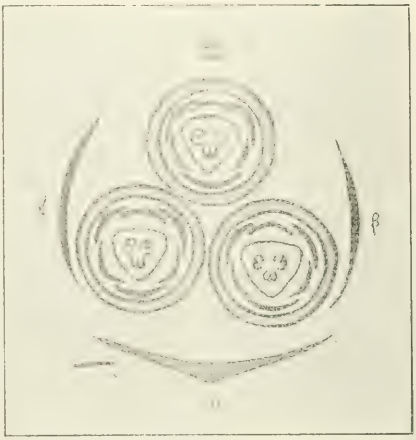
くり屬、（第六圖ノ三）　地下ニ發芽シ果皮ハ頂端割レ內ニ子葉ヲ包ミテ之ヲ地上ニ現サズ最初現ルヽ四ケノ葉ハ小形線狀ニシテ全緣ナリ、第五葉以下ハ鋸齒アリテ尋常葉狀ヲ呈スルニ至ル。

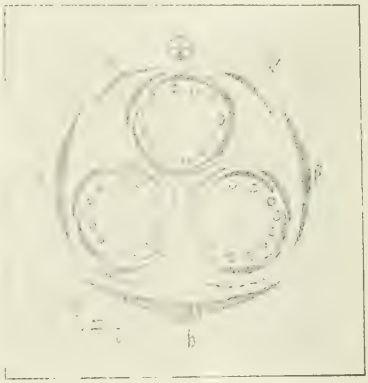


第五圖　種々ノ果實ヲ示ス

一　ぶな屬
二　ひめぶな屬
三—八　ひーぐり屬
九—十三　しひ亞屬
十四—十九　閉果亞屬
廿　環成殼斗亞屬又ハ常綠櫟亞屬
廿一　鱗成殼斗亞屬
廿二　楢櫟亞屬

（二、フッカー氏。六—八、一—十四、十六—十九キング氏ニ依ル）





第四圖　ヒりぶかゞしノ單一花叢ノ花式圖

(一) 雌性花

(二) 雄性花

(符號ハ前ニ同ジ)

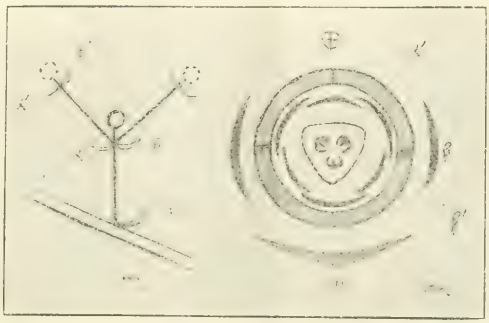
(五)かし屬、雄花ハ皆獨生シ花被片ハ普通六ケナル可キモ往々其數ヲ減ジ各片ハ相互ニ癒合スルノ程度大ナリ、雄蘂亦其數ヲ減ジ五六本ヤリ。雌花モ獨生シ花被片ハ六ケ鱗片狀ナリ心皮ハ三ケ内面モ相互ニ密ニ癒合シテ眞ノ複子房ヲ形成ス花柱ハ少シク外方ニ曲リ柱頭亦扁平ニ張大シテ他屬ヨリハ風媒ニ適セリ、シュルツ氏(Schulz, Beit. Deut. Bot. (Bot. Ztg. 1894.))ハ歐洲產ノ(Quercus sessiliflora, Sm.)ノ雌花ニ雄蘂ノ痕跡ヲ見タリト云フ。雄花序ハ下垂シ風ニ動搖シ花粉ヲ飛散スルニ適ス、サレバ本屬ハ本科中稍進歩セシ風媒花ヲ有スルモノナル可シ。

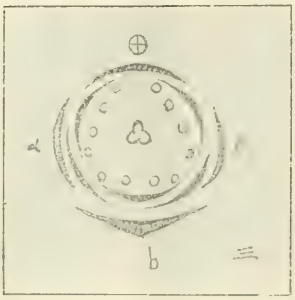
第四節　果實及ビ種子

殼斗科ノ果實、(第五圖)ハ常ニ殼斗ナルモノヲ相伴フヲ以テ一ケノ假果ナルガ眞ノ果實ハ卽チ堅果(Nut, Nux Acorn, Glans)ニシテ主ニ長楕圓狀圓柱形ヲナスカ又ハ四面體ヲナス、ぶな屬、くり屬、ひしぐり屬、しひ亞屬(Chlamydobalanus)ノ殼斗ハ成長シテ全然果實ヲ包ミ外觀蒴果ノ如キ假果ヲ成ス、此殼斗ハぶな屬、くり屬ニテハ成熟スレバ四裂シひしぐり屬しひ亞屬ニテハ不規則ニ裂ク、閉果亞屬(Lithocarpus)ノ殼斗ハ成長シテ堅キ木質トナリ

ヲナスサレバ甲蟲、蜂、虻等ノ來リテ花粉ヲ食シツヽアル間ニ媒介ヲナスガ如シ蜜モ分泌スルニヤ蝶類モ花ヲ訪フモノ多シ、柱頭ノ狀態ハ風媒ニハ甚不適當ナリ。

(三)ひしぐり屬、(第三圖)雌花ハ數多ノ鱗片ヨリナレル總苞狀殼斗內ニ一—三ケアリ花被片ハ六ケ鱗片狀ヲナシ花被筒ハ甚著シカラズ、心皮ハ三ケ幼時ハ全ク相離生ス、花柱ハ棒狀柱頭ハ點狀ナリ、雌花ハ寧ロ兩性花ニシテ小雄蕊七ケ位ヲ具フルヲ見ル雄花ハくり屬ニ同ジク受粉ノ狀亦同一ナルベシ。





第三圖　ひしぐり屬ノ花式圖

(一)　單一雌性花叢ノ原花序(想像圖)

(二)　同上ノ花式圖

(符號ハ前ニ同ジ)

(三)　雄花ノ花式圖

(四)ぶなてばしひ屬、(第四圖)雌花ハ普通一苞內ニ三ケアリ各ハ特別ノ殼斗ヲ有ス、花被片ハ六ケ、心皮ハ三ケ基部ノミ相癒合ス花柱ハ三ケ棒狀ニシテ柱頭モ亦點狀ナリ、雄花ノ花被片ハ各基部ノミ癒合ス雄蕊ハ十二本アリ、しゐ、しりぶかがし等ノ花ハ一種ノ芳香ヲ發シ之ヲ訪フ昆蟲ハ甚多ク蝶蛾、双翅類、半翅類、蜂類、甲蟲等アリ柱頭ノ狀態ヨリ見ルモ風媒ニハ餘リ適セシ花ニハ非ラザル可シ。

ヲ知ラザレドモ花托ノ增大成長セシモノトシ之ニ附著スル數多ノ鱗片ノ如キハ高出假葉トシテ說明スルハ便利ナルガ如シ。（殼斗ヲ便宜上第一章ニ入レタリ）

第三節　花

殼斗科植物ノ花ハ多ク單性ニシテ一家花ナリ、又輻射花ニシテ輪生シ各列ハ異數ヲ以テナル、花被ハ萼花冠ノ區別ナシ、其形ノ花ハ花被ハ二列ニテ三數ヨリナリ各片ハ多少相互ニ癒合シ雄蘂ハ二列ニテ六數ヨリ成リ心皮ハ一列三ヨリ以テナルガ如シ、葯ハ二室ヨリ各室ハ縱裂シテ花粉ヲ散ズ、花絲ハ絲狀ニシテ側著又ハ底著ナリ、心皮ハ三又ハ六ケ、心房ハ下位ニシテ三室ヨリナリ、胚珠ハ各室ニ二ケ側膜胎座ニ附著シ相幷行シテ垂性ナリ、倒生（Anatropeæ）ニシテ珠目ハ上方（Epitropeæ）ニシテ春（Raphe）ハ內面（Ventral）ニアリ、珠皮ハ二枚アリテ珠心ト離ル、花柱ハ三ケアリテ離生シ柱頭ハ點狀又ハ扁平ニ張大ス、花粉管ハ珠孔ヨリ（Porogamy）入ル、ひしぐり屬ニテハ往々兩性花ヲ見、ぶな屬くり屬ノ雄花ニハ又雌蘂ノ痕跡ヲ見ルコトアリ、雌花ハ普通雌蘂下生（Ovary inferior）トスレドモ或ハ之レ眞ノ雌蘂下生ニ非ラズシテ只花被筒ガ複子房ノ背部ニ側著セルモノトナス、花ハ普通皆風媒花トナセドモ眞ノ風媒ノミナルハぶな屬かし屬等ニテ他ノ諸屬ハ蟲媒ニ風媒ヲ兼ルガ如シ。

（一）ぶな屬。雌花ハ總苞內ニ二ケアリ其花被片ハ總テ六ケ（稀ニ四—五ケ）アリ二列三數ヨリナリ各片ノ大部分相互ニ癒合シテ花被筒ヲナシ此部又子房ニ側著シ、心皮ハ三ケニシテ複子房ハ三室アリ、花柱ハ三ケ絲狀ニシテ毛ヲ生ズ。雄花ノ花被片（Perianth）多クハ六ケナレドモ稀ニ四—七ケアリ相互ニ癒合ス、雄蘂ハ普通十二ケアレドモ變化多クシテ八—十六—十八等アリ葯ハ長橢圓ニシテ底著ナリ雌蘂ノ痕跡ハナキモノアリ。風媒花ニシテ雄花序ノ柄ハ絲狀ニシテヨク動搖シ花粉ヲ散ジ柱頭亦毛多クシテ花粉ヲ受クルニ便ナリ五月上旬ヨリ開花ス。

（二）くり屬、雌花ハ數多ノ鱗片ヨリナレル總苞狀殼斗ノ內ニ三ケアリ花被片ハ六ケ小鱗片狀ヲナス、心皮ハ六ケアリ其內面ハ下部ノミ相互ニ癒合ス、花柱ハ六ケアリ平滑ニシテ柱頭ハ點狀ナリ、雄花ノ花被片ハ六ケ其基部ノミ僅ニ相癒合ス、雄蘂ハ十二本アリ、雌蘂ノ痕跡ヲ具フルモノアリ。雄花ハ一種ノ香ヲ發シ花粉亦個々ニ飛散セズシテ塊狀

(乙)ぶな族(Fagale)（第二圖）雄性花序ハ元來ノ前述複總狀花序ニ於テ短縮スル際ニ各聚繖花序ノ花數ハ一トナリ更ニ聚繖花序ヲ附ケシ花軸ノ上部モ短縮シテ雄花ハ遂ニ頭狀ニ集合セシモノナルベシ、雌性花序ハ前述複總狀花序ノ短縮スルヤ只一ノ聚繖花序ヲ殘留セシメ此殘留花序ガ更ニ二段ノ收縮ヲナセシモノト如シ

第二節　殼斗

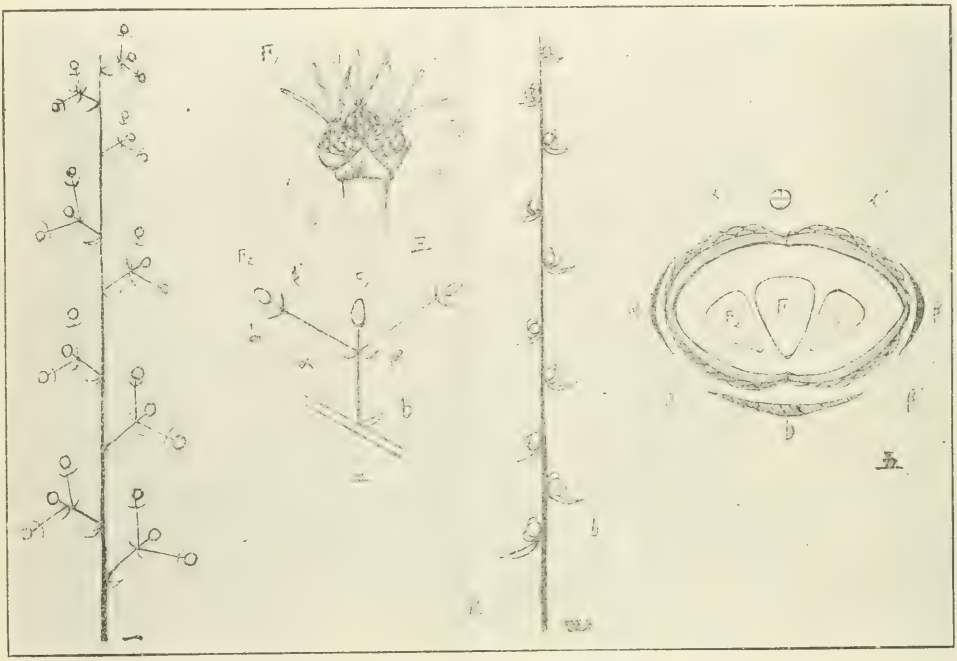
殼斗科植物ノ雌花ハ一ケ二ケ又ハ三ケヅヽ花時ハ屢總苞(Involucle)ト稱セラレ花後ハ殼斗(Cupule)ト稱スルモノニヨリテ圍繞サル、ぶな屬くり屬等ニテハ花時既ニ其發達著シク十分殼斗ノ狀ヲナシ其外面ニハ、多ノ小葉狀片(Hüllen)ヲ附著ス、ひーぐり屬およびしひ屬かし屬等ニアリテハ花時ハ稍著シカラズ只數多又ハ少數ノ鱗片ヲ以テ被ルヽノミナリ、然シテ花後ハ直ニ生長シテ明瞭ナル殼斗ヲナス。

殼斗ノ形態學上ノ性質ハプラントル氏(K. Prantl)ツェラコースキー氏(L. Celakovsky)ニ依レバ花托(Achse)ノ增大生長セシモノニシテ之ニ附著セル鱗片ハ之レ高出葉(Hochblätter)ナリ而シテ小苞ノ如キハ別ニ之有リト然ルニアイヒラー氏(A. W. Eichler)ポーセット氏(L. Pampanini)等ニ依レバ三花ヨリナル一小聚繖花序ノ第二次小苞ノ癒合ジテナレルモノナリト云フ。

ぶな亞科(ぶな屬ひめぶな屬ヲ含ム)及ビ栗族中ノ栗亞族(Castaninae)（栗屬、ひしぐり屬ヲ含ムニハ一ケノ苞內ニ二、三花ヲ有シ各ケハ皆同一殼斗內ニ相接觸シテ座ス、然ルニ栗族中ノかし亞族(Quercinae)（またばしひ屬かし屬ヲ含ム）ハ一ケノ苞內ニ一—三花ヲ有シ各花ハ常ニ一ノ殼斗ヲ專有ス、此ニ於テ前者ノ場合ニハアイヒラー說ニヨリ殼斗ノ構造ヲ說明スレバ四ノ第二次小苞ノ相寄リテ其ニ一ノ殼斗ヲ形成スルコトナレドモ後者ノ場合中またばしひ屬ニ多キ一苞內ニ三花ヲ有スル時ニ各花ノ專有スル殼斗ハ四ノ第二次小苞中只一ケニテ一殼斗ヲ生ズベキノ場合ヲ來タスコトヽナル。

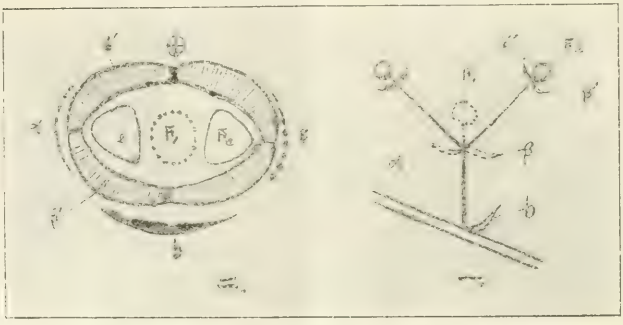
かし屬ニアリテハ花ト其座スル殼斗トノ間ニ一ノ節アリテ恰モ其花ノ有スル花柄(Pedicel)ガ全然短縮シテ花托ト合一シ以テ花梗(Pedunele)ノ短縮シテ成リタルガ如キ殼斗ノ上ニ座スルヲ目擊シ得ベシ、以上ノ二說何レカ是ナル

第一圖　栗族ノ花序模型圖



苞 l.　　序花原的像想　一）
苞小次一第 β. α.　　序花原繖聚的像想　（二）
苞小次二第 β′. α′.　　序花ルセ縮短ノ上同　（三）
花 F_2. F_1.　　序花ル附ニ軸花ガ上同　（四）
軸花 R.　　圖式花ノ三　五）

第二圖　ぶなノ花序模型圖



（圖像想）序花的原ノ叢花一單花雌　（一）
ジ同ニ圖一第ハ號符　圖式花ノ上同　（二）

頂上ニ簇生スルモノ、其二ハ雌雄花序ガ新條ノ頂ニ簇生シ雌者ハ同枝ノ葉腋ニ獨生スルモノ、其三ハ各單性花序ガ各別ノ枝條ノ葉腋ニ獨生スルモノ等之ナリ、而シテ各花叢ノ性狀ハ之ヲ實驗セズ。

(四ノ四)鱗成殼斗亞屬 (Eulepidobalanus) 花序ノ排列法ハ其一ニ雨花ヲ以テナルモノガ新條ノ頂上ニ簇生スルカ又ハ葉ヲ有スル一大集複總狀ヲナスモノアリ、其二ニ各單性花序ガ新枝ノ頂ニ複總狀ヲ形リ其上部ニ位スル花序ハ雌性ナルモノアリ、其三ニ雌性花序ガ一枝ノ葉腋ニ獨生ヲナシ雄者ハ他枝ノ頂ニ複總狀ヲナスモノアリ其四ニ前者ト反スルモノアリ、まてばしひノ如キハ雌花ハ一苞内ニ一花アリテ其第一次小苞ハ不明ナレドモ第二次小苞ハ總苞ヲナスナラン、まてばしひノ雄花ハ三花ヅヽ一苞内ニアリ四ノ第二次小苞ハ明ナレドモ第一次小苞ハ不明ナリ、しりぶかがしノ如キハ一苞内ニ二、三、四、五ケ等ノ雌花アレドモ一般ニ三花アル場合多シ之等ノ場合ニ二ノ第一次小苞ハ明ナルガ第二次以下ノ小苞ハ各相共ニ總苞ヲ形成スルモノナランカ、雄花ハ一苞内ニ三ケアリ第一次小苞ト第二次小苞ノ半ヅヽトヲ有ス。

(五)かし屬 (Quercus) 葇荑花序ハ常ニ單性ナリ、雄者ハ新枝ノ下部ノ假葉 (Scheinblatter, oder Niederblatter) ノ腋ヨリ簇生シテ下垂ス、雌者ハ常ニ雄者ヨリ短小ニシテ同枝ノ上部葉腋ニ生ジテ下垂セズ、雄花ハ一苞内ニ多クハ一花ナレドモ稀ニ三花ヲ見ルコトアリ小苞ハ皆不分明ナリ、雌花ハ一苞内ニ常ニ只一ニシテ第一次小苞ノ不明ナルモノアリ四ノ第二次小苞ハ相寄リテ一ケノ總苞ヲナスト云フ。

(六)一般殼斗科ノ花序、甲栗族 (Castaneae) (第一圖) 元來單性花ヲ以テ成レル小聚繖花序ガ數多一小枝ニ又ハ雌雄枝ヲ異ニシテ其レニ複總狀花序的ニ附著セシモノナルガ各聚繖花序ハ全ク短縮セシタメ全體ハ所謂葇荑花序ト稱スル一見穗狀ノモノト成ルニ至レリ、サレバ苞モ小苞モ一所ニ集合シテ集合花ヲ包圍スルノ觀アリ、然シテ小梗ガ後ノ殼斗タヽ卽チ花時ノ總苞ナルモノヲ成スニ到レルカ或ハ然ズシテ第二次以下ノ小苞ノ成レルモノナルカハ議論ノアル個處ナリ。本節ニテハ主ニ後說ニヨリ記シタリ。此短縮セル聚繖花序ニ於ケル花數ハ總テ一—七ケニシテ多クノ場合ハ一—三ノ間ニアリ。

ヲ占メ小苞ノ如キモ十四ケアルベキ筈ナレドモ第三次ヨリ以下ハ見ザルコトノミ多シ。雌雄兩花ヨリ成ル苹蓑花序中ノ雌花叢ハ三花ヨリナル聚繖花序ノ短縮セルモノニシテ各三花ハ相接觸シテ後來ノ殼斗ナル四ケノ第二次小苞ガ總苞狀ヲナセルモノ、內ニ座ス、總苞ノ外部ニハ二ノ第一次小苞及ビ一ケノ苞アリ。

(二)ひーぐり屬 (Castaneæ)、苹蓑花序ハ下垂セズ。單性花ヨリナルカ又ハ雌雄兩花ヲ以テナル、之等ガ枝條ニ排列スル方法ニ下ノ數通アリ(甲)雌性花序及ビ雄性花序ガ各一ケ枝條ノ頂部ニ別々ニ複總狀ニ著クモノ、(乙)雌雄兩花ヲ以テ成ルモノガ一枝條ノ頂ニ複總狀ヲナスモノ(丙)同上花序ガ更ニ葉ヲ附ケシ集複總狀ヲナモノ(丁)兩單性花序ガ各別ニ一ケノ枝條ノ葉腋ニ獨生スルモノ(戊)兩單性花序ガ同一枝條ノ葉腋ニ不規則ニ獨生スルモノ、數種之ナリ。苹蓑花序ヲ成ス雄花叢ハ之レ亦三花ヨリナル一小聚繖花序ノ短縮セルモノニシテ一ケノ苞及ビ第一次小苞二ケヲ具ス。雌花叢ハ亦同樣ニシテ一ケノ苞。第一次小苞二ケ及ビ總苞狀ヲナス第二次小苞以下數鱗片ヲ有ス、然レドモ此等花叢ハ皆一、二、四ケ等ノ花ヲ以テ成ルコトアリ。

(四)まてばしひ屬 (Pasania)

(四ノ一)、しひ亞屬 (Chlamydobalanus) 苹蓑花序ハ下垂セズ單性ナルカ又ハ雌雄兩花ヲ以テナル、其枝條ニ排列スル狀ハ同一新枝條ノ葉腋ニ獨生シ上部ノ花序ハ雌性ニシテ下部ノモノハ雄性ナリ、他型ハ下部ニ雌花ヲ有シ上部ニ雄花ヲ有スル花序ガ同一枝條ノ頂上ニ簇生シテ一大複總狀ヲ成ス、雄花叢ハ本邦ノしひノ如キハ只一花ヲ以テナル之レ聚繖花序ノ第一花ナルベク二ノ小苞ハ第一次ノモノナルベシ苞ハ之ヲ缺ク、雌花叢亦只一花ヨリ成リ苞ハ著明ナレドモ第一次小苞ハナク四ノ第二次小苞ハ總苞ヲ形成スルモノ、如シ。

(四ノ二)閉果亞屬 (Lithocarpus) 單性又ハ雌雄兩花ヨリナル花序ハ新枝ノ頂ニ簇生シテ一大複總狀ヲナス此場合各花序ガ單性ナレバ雌性者ハ上部ニ位ス、一苞內ニ三—四雌花アリテ第一次小苞ヲ有シ第二次ノモノハ總苞ヲナシ雄花ハ一苞內ニ三—四花アリテ四ケノ小苞ヲ有スルヲ見タルノミニテ他ノ數種ノモノハ實驗セズ。

(四ノ三)圈成殼斗亞屬 (Cyclobalanus) 花序ガ枝條ニ排列スル狀ニ種々アリ、其一ハ兩花ヲ以テナルモノガ新條ノ

百五十四種ヲ降ラズ支那ニ於ケル調査尚進渉セバ其種數益增加スベシ。

自分ハ此研究中化石種及ビ生存種ノ標品ハ勿論圖サヘモ見得ザル場合甚少ラズ極テ隔靴搔痒ノ感アル點アリ故ニ未ダ盡サヾルノ所アレドモ暫ク略記ヲナス。

此研究中松村敎授ノ御指導及ビ白井敎授、白澤博士、草野助敎授其他ノ諸氏ヨリ賜リタル御厚意ニ對シ深ク謹謝ス。

第一編　外部形態

第一章　蕃殖器官

第一節　花序

殼斗科ノ花序ハ卽チ葇荑花序ニシテ一ノ單性花ノミヲ以テナルカ又雄花及ビ雌花ヲ以テ成リ直立又ハ垂下ス、苞及ビ小苞ヲ有シ花梗及ビ小梗ヲ有セズ花叢ハ直ニ花軸(Rachis)ニ附著ス

(一)ぶな屬(Fagus)雄性花序ハ新枝ノ下部ノ葉腋ヨリ生ジ花序柄ハ絲狀ニシテ下垂ス、花序柄ニハ一又二ケノ苞狀附屬物(Bracteoli, Phylloli)ヲ有スルコトアリ、雄花ハ頭狀ニ集合シ各一ケノ苞ヲ有スレドモ小苞ハ之ヲ缺ク之レ花序柄ニ數多ノ聚繖花ヲ附ケシ一大花序ノ收縮セシモノナラン。雌性花序ハ新枝ノ上部ノ葉腋ヨリ生ジ花序柄ハ細長形絲狀又ハ短クシテ硬直ナリ其先端ニ二ケノ雌花ヲ附ク、苞ヲ有シ各花ハ二ケノ小苞ヲ有ス後來ノ殼斗ヲナス四ケノ總苞片之ナリ此花序ハ三ケノ花ヨリナレル一ノ聚繖花序(Cyme)ニシテ其中央ノ花及ビ其小苞ハ消失シテ現レズ左右ノ二花ハ小梗ヲ有セズ(又之ハ變化シタルタメ)共ニ花序柄ノ先端ニ集合セルモノナリ、然シテ又元來ノ花梗モ退化シテ苞ノ如キモ花叢ノ下部ニ附著スルニ至レルモノナルベシ。

(二)栗屬(Castanea)、長形ノ葇荑花序ニシテ先端部下垂ス、全ク雄性花ノミヨリナルカ又ハ雌雄兩花ヲ以テ成ル、後者ノ場合ニハ雌花叢ハ花序ノ下部ニ一—數ケヲ附ス。

雄性花序ヲナス各花叢ハ三—七花ヲ以テナル一聚繖花序ノ短縮シタルモノナリ一ケノ苞ヲ具シ小苞ハ第一次第二次等ハ明ナレドモ以下ハ屢不明ナルコト多シ、卽チ多クハ一花叢ハ七花ヲ以テ成ルヲ普通トシ各花頗ル相密接シテ座

植物學雜誌第二十六卷　第三百十二號　大正元年十二月二十日

○殼斗科總說

Morphology, Systematik und Phytogeographie der Cupuliferae, DC (*Fagaceae*, A. Br.)

小泉源一

緒言

地球上各三帶ノ濶葉樹林ノ主林木ヲ含ム主要ナル部類ハ熱帶地方ニテハ先ヅ山茂樫科(Proteaceae)桃金孃科(Myrtaceae)等ニシテ寒帶ニテハ樺木科(Betulaceae)ナリ而シテ溫帶ニアッテハ第一ニ指ヲ殼斗科(Cupuliferae)ニ屈セザルヲ得ズ殼斗科植物ハ有用ナル木材ヲ供給スルヲ以テ吾人日常ト其關係スルトコロ大ナリ。

殼斗科(Cupuliferae, DC. 1864; ぶな科, Fagaceae, A. Br. 1864)ハ葇荑花序(Amentum)ヲ有シ主ニ風媒花ナリ果實ノ殼斗(Cupula)ヲ具スルハ最著シキ形態ニシテ倘二枚ノ珠皮ハ管束系(Vasculärsmply)ヲ有シ胚珠心ト癒合セズ、且ツ大胞子數ケヲ生ズル等ノ性アリ、古來樺木科ト共ニ殼斗目(Cupuliferae)ノ內ニ合セラレタルモノニシテ殼斗科(ぶな科)ト樺木科トハ其關係系統上頗ル密接ナルノミナラズ間接ニハ胡桃科、楊梅科及ビ木麻黃科(Casuarinaceae)トモ關係アルコト疑ナシ。

殼斗科(ぶな科)ノ化石種ノ發見セラルヽハ白堊紀ノ後綠砂世(Cenomanien Epoch)以來ノ地層ニシテ其祖先ノ出現地ノ如キハ不明ナルモ先ヅ侏羅紀ノ白侏羅世(Malm Epoch)ニアンガラ大陸(Angara)ノ南方ニ於テ出現セシコトヲ想像シ得、以來發展セシハ七ー九屬ニシテ內一ー二屬ハ第三紀中ニ滅絕セリ然シテ地質時代殊ニ第三紀中ニハ亞弗利加ヲ除キテハ皆他ノ地方ニ分布シ現世ニアリテハ六屬四百廿八種ヲ降ラズ其分布區域ニハ自ラ三中心アリ、其一ハ北溫帶地方ニシテ其二ハ熱帶亞細亞地方其三ハ南半球ノ溫帶地方之ナリ、殊ニ南半球ニハ第三紀始新世以來ひめぶな屬(Nothofagus)ナル一特有屬アリテ現世ニ傳レルハ著シキコトナリ。現今最モ種類ノ多キハ亞細亞ニシテ二

等修繕ニ多大ノ費用ヲ要スル被害ノモノハ全ク菌類ノ害ニ因ルモノニシテ中ニモ姫路城ノ如キハ明治四十四年中ノ「昆蟲世界」ニ白蟻ノ慘害ヲ被レルモノトシテ屢々報導セラレ且ツ大修繕中ノ寫眞板ヲ口繪ニ掲ゲラレタル程ナレバ世人亦之ヲ信ジ居ルモノナレドモ君ガ實地調査ノ結果ハ全然白蟻ノ被害ナラザルコトヲ詳論セラレ多クノ寫眞、寫生圖、腐朽材標本ヲ示シテ實證セラレタリ次デ本邦ノ洋風家屋ノ用材腐朽ノ原因ハ氣候ノ最モ濕潤ナル時季ガ菌類ノ繁殖ニ適スル濕度攝氏二十度前後ナルコト安リニ外國ニ倣ヒテ床下ノ通風裝置ノ不完全、濕氣防止裝置ノ不備等ニアルナランモ玆ニ最モ注意スベキハ粗製煉瓦ヨリ分泌スル風化物ハ主トシテ炭酸曹達ナルカ或ハ硫酸曹達ナルモノナレバ共ニ潮解性强キニ依リ煉瓦ニ吸水ヲ促ス上ニ此前者ハ水ニ溶解セル狀態ニ於テハ苛性曹達ノ働ヲ逞フシ木材ヲ其化學的作用ニヨリテ腐蝕シ從ツテ起ル菌害ト兩々相助ケテ木材ヲ腐朽セシムルコトハ今日迄何人モ唱ヘザリシ所ナレドモ此後建築者ノ最モ留意ヲ要スベク又硫酸曹達ガ煉瓦「コンクリート」等ヨリ風化分泌スル場合ニハ鐵材ヲ腐蝕スルモノナレバ煉瓦「コンクリート」等ト木材鐵材ヲ濕氣ヲ受クル狀態ノ下ニ混用セル建築物ハ到底永久ノモノニ非ザルコトヲ論ジ法隆寺ヲ始メ南都ニ古來千有餘年ノ星霜ヲ經テ今ニ完全ニ存スル社寺等ノ建造物ニ就キ甚腐朽セザル理由ヲ述ベラレ本邦建築家ノ注意ヲ促サル、閉會五時

○幹事更迭

本會幹事小泉源一君（會計）小松春三君（庶務）鈴木靖君（圖書）及ビ兒玉親輔君（編輯）ハ今回止ムヲ得ザル事情ニヨリ辭任セラレタルニ付キ其後任トシテ青木俊治君（會計）眞保一輔君（庶務）桑田義備君（圖書）及ビ纐纈理一郎君（編輯）ノ諸氏就任セラレタリ

○入會

東京帝國大學理科大學植物學教室（桑田義備氏紹介）
岩城隆德（服部廣太郎氏紹介）
相馬孟胤（岡村周諦氏紹介）
宮地數千木（眞保一輔氏紹介）
日比野信一（早田文藏氏紹介）
松本三郎（牧野富太郎氏紹介）
同　恩田經介（千葉芳雄氏紹介）
同　長谷川甚五郎（千葉縣長生郡一宮町眞保一輔氏紹介）
同　大關增輝

○轉居

東京帝國大學農科大學植物學教室
千葉芳雄
東北帝國大學農科大學植物學教室
工藤祐舜
富山縣立高岡中學校
城川範之
東京府荏原郡大崎町大字居木橋二〇七
淺野彥太郎
廣島市千田町五三九
片岡雋弼
東京市本鄉區駒込千駄木町五十八番地
畠山久重
中華民國湖南省長沙公立湖南高等師範學校植物學教室
山崎周藏

源トシテノ植物ナル一章ヲ添ユ、筆ヲ簡單ナル植物外形ノ觀察ニ起シダーウイン說ノ講明ニ篇ヲ結ブニ至ル迄巧ニ形態解剖及生理ニ關スル學理ヲ按排補綴シ能ク讀者ヲシテ植物生活ノ要概ヲ會得セシム、其原著ノ久シク本國ニ行ハレ今又譯書ノ世ニ出ヅル徒爾ニ非ズトイフベシ、行文亦頗ル奇警、劈頭世人ノ植物學ヲ視ルヤ往々一Anabilis scientia トナスニ過ギザルヲ慨シ其弊ノ由テ來ル所ヲ指摘シ科學的討究ノ必要ヲ鼓吹セルガ如キ蓋シ好文字タルヲ失ハズ文書中ニ掲グル數多ノ小實驗中ニハ間、新機軸ヲ出セルヲ認ムベシ、但著者ガ故ニ(コトサラ)刺戟生理學ヲ無視シテ莖根ノ向地性屈曲ノ機械的說明ヲ試ミントセルガ如キハ吾人ノ全然首肯スル能ハザル所其他二三生理學上ノ解說ニ於テ已ニ陳腐ニ屬スルモノアルハ遺憾トスベシ。

（未ケ）

◎東京植物學會錄事

○例會記事

大正元年十月廿六日午後一時半ヨリ小石川植物園內植物學教室ニ於テ本會例會ヲ開キ左ノ講演アリタリ

一、二三植物ノ乳管ニ就テ　理學士　纐纈理一郎君

一、我邦ニ於ケル洋風家屋ト其菌害　理學士　川村清一君

先ヅ纐纈理一郎君ハ乳管研究史ノ大要ヲ述ベ次デ君ガ研究セラレタル十餘種植物ノ乳管若シクハ乳細胞ニ就テ其生理的解剖上ノ要點其內容物ノ物理的性質及ビ化學成分ヲ說キ次デ乳管ノ意味ニ就テノ生理的及ビ生態的實驗ノ結果ヲ述ベ君ガ研究ノ範圍內ニ於テハ乳管ノ作用ニ就テノ諸說中乳管ハ主ニ食害動物ニ對スル防禦手段及ビ傷部閉鎖ノ用ヲ爲スモノナルベシトノ說ノ最モ信ズベキヲ語ラレタリ尙其詳細ハ他日本誌ニ掲載セラルベケレバ玆ニハ略ス

次ニ川村清一君ハ彼ノ近時世人ノ心膽ヲ寒カラシメ政府當局者モ亦其處置ニ窮シツヽアル所謂白蟻ノ慘害ナルモノハ少クトモ君ガ東京市內、畿內、中國、四國等ノ被害建築物ニ就キ實地ニ調査セラレタル範圍內ニ於テハ多クハ單ニ白蟻ノ被害ト爲スベキモノニ非ズシテ近來本邦ノ風土ニ適セザル建築物流行ノ結果用材ガ濕氣ヲ吸收シ之ニ菌類繁殖シテ木材ヲ冒シ遂ニ腐朽セシムルニ至レルモノニシテ白蟻ハ只其腐朽材ニ第二次的ニ害ヲ與ヘタルモノ多ク、然モ白蟻ハ腐朽材全部ニ繁殖セルコトナシ、他ニ建築上ノ缺點ヨリ純白蟻ノ害ヲ受ケタル丸龜衞戍病院內隔離病室ヲ始メ其他ニ實例アリタレドモ彼ノ修繕ニ九萬餘圓ヲ費シタル姬路城、三萬圓ノ見込ヲ以テ目下修繕中ノ東京府第一中學校ヲ始トシ東京病院、多度津ノ海岸寺

色硫黄バクテリア」ノ純粹培養ニ成効シタル人アルヲ聞カザル宜ナルベシ。

○通氣上皮

纐纈理一郎

植物界ニ現ハル、通氣裝置ハ氣孔及ビ皮目ノ外ニ三特別ナルモノヲ見レドモ通氣上皮(Durchlüftungsepithel)ナルモノハ最近ニ於テ Vouk 氏ガ始メテ發表セルモノナリ、(Berichte der Deutschen Botanischen Gesellschaft, Bd. XXX, H. 5, PP. 958-62) ブラジル産ノ木本 *Begonia cebifolia* Schott. ノ幹ハ褐色ノ木栓皮ヲ以テ被ハルレド處々ニ綠色疣狀突起散存スコハ一見皮目ノ如キ觀ヲ呈スレドモ解剖上至細ニ檢スレバ之ト全ク別種ノ構造ヲ有スルモノニテ此部分ノミハ木栓皮ヲ被ル事ナク表皮ハ軟弱ナル小細胞ノ一層ヨリ成リ其細胞膜ハ薄ク且ツ外面ノ「クチクラ」ハ殆ンド認メ得ズ一個ノ疣狀突起ノ內ニハ十乃至二十ノ氣孔ヲ有スレドモ其發育殊ニ其呼吸腔ノ發育微弱ニシテ時ニハ其下ニアル組織ニヨリテ全ク閉鎖セラル表皮下ノ組織ハ葉綠粒ヲ有シ一ノ同化組織ヲ形成ス、此部ノ細胞間隙系ノ發育ハ又微弱ナリ、以上ノ構造ヨリ見レバ此部ハ全ク通氣裝置トシテノ普通ノ條件不發達ニテ此部ヲ以テ通氣裝置ト見做スハ一見妥當ナラザルガ如シサレド其表皮ノ構造ヲ思ヘバ此部ノ表皮ガ植物ノ保護器管トシテノ外何等カノ他ノ使命ヲ有スルナルベシ氏ハ是等ノ理由ニヨリテ此軟弱ナル表皮ハ通氣作用ヲ營ムモノナリトノ意見ヲ有シ之レニ通氣上皮ナル名稱ヲ與ヘタリ此部ノ氣孔ノ不發達ナル、細胞間隙系ノ狹小ナルハ表皮ニヨリテ通氣作用ヲ營マレ若クハ分擔セラルヽガ爲ナリトモ見ラルベシ。

◎新著紹介

○チミリアツェフ氏著『植物ノ生活』

(The life of the plant, by C. A. Timiriazeff. Longmans, Green, and Co. 1912 pp. 355 with 83 text-figures.)

著者チミリアツェフ氏ハ露國植物學界ノ耆宿ニシテ其日光「スペクトルム」ノ各部ニ於ケル同化作用ニ關スル試驗ノ如キハ植物生理學上典據的研究ノ一タル人ノ知ル所ナリ本書ノ原版ハ一千八百七十八年中モスコウニ於テ公ニセラレ爾後三十五年間ニ七版ヲ重ネタリトイフ英譯ハアンナ、ケレメテッフ女史ノ手ニ成リ原著者ノ序文ヲ添ヘ出版ノ由來ヲ明ニセリ、本書章ヲ分ツコト十、其題目左ノ如シ、(一)科學及社會、植物ノ外形及內景、(二)細胞、(三)種子、(四)根、(五)葉、(六)莖、(七)生長、(八)花、(九)動物及植物(十)生物品種ノ起原、之レナリ、別ニ附錄トシテ勢力ノ資

フ、

本病原菌ノ純粹培養ハ既ニ數年前其ノ成功ヲ見タルモノニシテ決シテ今回ヲ以テ嚆矢トナスモノニアラザレドモ本著者ノ用キタル培養基ハ「馬鈴薯ゼラチン」「Lima-bean-agar」等ニシテ後者ニ於テハ特ニ其ノ發生良好ナリシト云フ、

尙本報告ニヨル時ハ馬鈴薯ノ種類ニヨリテ本病原菌ニ對スル抗抵力必シモ一樣ナラズ非常ニ侵サレ易キモノヨリ極メテ抗抵力ノ强キモノマデ種々ノ階段ノモノ存在スト云フ、

○無色硫黄「バクテリア」ノ走化性

纐纈理一郎

桃色硫黄「バクテリア」ノ走化性ニ就テハ既ニ三好博士及モーリッシ氏等ニヨリテ研究セラレタリ然レドモ未ダ無色硫黄、「バクテリア」ノ其レニ就テノ研究アルヲ聞カズ最近ニ於テリドフェルス氏ガ此闕陷ヲ補ハンガ爲メ一種ノ *Thiospirillum* ニ就テ行ヒタル研究ニヨレバ（Berichte der Deutschen Botanischen Gesellschaft. Bd. XXX, H. 5. P. 262 ff. 參照）「硫化水素」「チオ硫酸ナトリウム」「硫水化カリウム」ニ對シテハ明カナル趨化性ヲ現ハセドモ「カリウム」「ナトリウム」「カルシウム」「アンモニウム」等ノ鹽化物、硝酸鹽、硫酸鹽及ビ炭酸鹽ノ稀薄ナル溶液（$\frac{1}{50}$ 1Mol）ニ對シテハ何等ノ走化性ヲ現ハサズ其等ノ濃厚ナル溶液（$\frac{1}{50}$ — 1Mol）ニ對シテハ反テ明瞭ナル反撥作用（Repulsionswirkung）ヲ現ハス三好博士ノ研究ニヨル *Chromatium* ガ〇・三「パーセント」ノ「硝酸カリウム」及ビ「硫酸アンモニウム」ニ對シテ明瞭ナル趨化性ヲ現ハセルト其趣キヲ異ニス炭水化物例ヘバ蔗糖、果糖、「ガラクトーセ」糊精等其他「マンニット」「ペプトン」「ヘモグロビン」「アルブミン」「アスパラギン」等ハ何等ノ走化性ヲ起サシメ得ズ而ルニ脂肪體列（Fettreihe）ノ「一價アルコール」「ケトン」「アルデヒード」其他「二價アルコール」「グリセリン」等ハ趨化性ヲ起サシメ得「エチルエーテル」「クロロホルム」ハ最モ明瞭ニ趨化性ヲ起サシム。

以上ノ事實中注目スベキハ普通有機養料ニヨリテ生活スル「バクテリア」ハ炭水化物、蛋白質「ペプトン」「アスパラギン」等ニ對シ强烈ナル趨化性ヲ現ハスニ反シ本 *Thiospirillum* ハ全ク之レニ對シテ作用ナキ事ナリウォノグラドスキー氏ニヨレバ此等ノ有機物質ハ「硫黄バクテリア」ノ養料トシテ餘リ價値ナシト、是ニ由テ見レバ「バクテリア」ノ走化性ト其養料トハ密接ナル關係アルベク本 Thiospirillum ハ營養生理上普通ノ「バクテリア」トハ異ナリタル事情ニアルベシ然レドモ本菌ハ全ク有機物無クシテ生活シ得ベキヤ否ヤハ元ヨリ未知ニシテ由來「無

ニ乾燥セシムレバ粘液性ヲ認メ得ベク、其中ニ或結晶體ヲ見ル事又稀ナラズ、此水液ノ化學的研究ニヨレバ檸酸ノ存在ヲ確カメ得ベク、又分光器試驗ニヨリテ「カリウム」ヲ證明シ得、菌類ヨリ普通ニ「檸酸カリウム」ノ排泄セラル、事實ヨリ考フレバ此液中ニモ亦「檸酸カリウム」トシテ存在スルナルベシ、本菌ノ如ク菌蕈表面ノ排水毛茸ヨリ水液排泌ヲナス外特ニ菌柄部ノ數個處ニ於テ大ナル水滴ノ排泄セラルヽハ何故ナルカ、コハ未ダ發育充分ナラザル菌柄中ノ細胞間ニ或間隙ノ存スルアルニヨルナルベシ、此時期ニ於テハ其髓腔ハ全ク水液ニテ滿タサレ、本菌ノ如キハ同時ニ又菌柄皮部ノ細胞間隙モ亦一ノ水液貯蓄所トナル、今本菌ヲ其菌柄ノ急激伸長期ノ前夜ニ於テ菌柄ノ基部ヲ切リ去リ菌傘ノ頂點ヨリ菌柄軸ニ向ケテ硝子毛細管ヲ貫キ其髓腔中ノ水液ヲ吹キ出シ全ク其中ニ水液ナキニ至ラシメ之ヲ濕潤空氣中ニ垂直ノ位置ニ於テ徹夜セシムル時ハ普通ノ場合ノ如ク急激ナル菌柄伸長ヲ爲シ遂ゲ得、乃チ本菌ノ如キハ濕氣中ニ於テ髓腔中ノ水液ヲ借ラズ菌柄皮部ノ細胞間隙ニ貯ヘラレタル水液ノミニテ尙ヨリ甚大ナル菌柄伸長ヲ遂ゲ得ルナリ、然レドモ野生ノ狀態ニアリテハ外氣ハ必ズシモ濕潤ナラズ從テ皮質部ノ水液ヲ消耗スルコト大ナルベケレバ其菌柄ガ急激ニ伸長スルニ當リテハ髓腔中ノ水液ノ需用大ナルベシ。

以上述ベ來ル所ニヨレバ菌蕈ガ吸入セル水分ハ蒸氣作用大ナラザル場合ニハ其過剩部ハ液體ノマヽ、菌蕈外ニ排出セラレ、其一部ハ髓腔及ビ菌絲間隙ニ貯畜セラレテ菌柄ノ伸長菌傘ノ開展等ノ際必要ニ應ジテ消費セラルベク一旦貯畜セラレタル水分モ過剩ヲ生ズル際ニハ又體外ニ排出セラルベシ、

○馬鈴薯ノ疫病菌

田原正人

農作物病患中最モ恐ルベキモノノ一トシテ知ラレタル馬鈴薯疫病ノ病原菌フィトフトラ、インフェスタンスハ分類學上みづかびナドト共ニ藻菌類中ノ卵菌類（*Phycomycetes; Oomycetes*）ニ屬スル事トナリ居レドモ今日マデ未ダ有性生殖器ノ發見ヲ聞ク事ヲ得ザリシガ本年ノ八月發行ノ Bureau of Plant Industry, U. S. Dept. of Agric. ノ報告ニ揭載セラレタル Jones, Giddings, Lutman. 三氏ノ合同研究ノ結果ニヨル時ハ右三氏ハ本菌ノ純粹培養ニ際シ菌絲ニ混ジテ極メテ屢金米糖狀ノモノヲ發見シタリト云フ其ノ發生ノ初期ニ於テハ其概觀幷ビニ內部ノ構造極メテ能ク藏卵器ニ似寄リ居レドモ藏精器ニ相當スベキモノヲ檢出スル事能ハズ蓋シ無性的ニ造成セラレタル一種ノ休眠胞子ト見ルベキモノナラント想像セラル、然ラバ此ノ如キ物體ハ馬鈴薯ノ體內ニモ存スルモノナルカト云フニ著者ノ研究ニ據ル時ハ斷ジテカヽル物存スル事ナシト云

部比シ著シク薄シ、水液ノ排泌及ビ膜壁ノ粘液化ハ此部ニ行ハル、菌褶部ニ於ケル毛茸モ之ト相似ノ構造ヲ有シ小群ヲナシテ散在ス。

まつだけ科ノ或種ニテハ水液排泌ハ菌蕈外面ニ於ケル毛茸ニヨルモノノ外尚内部ニ於テ菌柄ノ菌絲間隙中ニ行ハル、吾人ガ屢、此部ノ菌絲間隙ニ修酸石灰ノ滯積スルヲ見ルハ之ガ爲ナリ、或時期ニ於テ現ハル、彼ノ或種ノ菌柄ノ髓腔中ニモ同樣ノ現象行ハル、此髓腔ナルモノハ例ヘバひとよたけ屬 (*Coprinus-Arten*) ニアリテハ可成リ早期ニ髓部菌絲ノ分離ニヨリテ生ジ次テ皮部菌絲ノ或生長法ニヨリテ廣メラル *C. radiatus* (Bolt.) Fr. ヲ見ルニ充分ノ濕氣アル處ニテハ其菌柄ガ急激ナル伸長ヲ爲ス時期ニ於テ其髓腔ガ全ク水液ヲ以テ滿タサル、ヲ見ル、此場合吾人ハ通常通導菌絲 (Leitungshyphen) ト見做ス所ノ髓部菌絲其物ガ髓腔中ニ水液ヲ排泄セシモノト認メザルベカラズ、一朝菌柄ノ急激伸長ヲ終リ胞子分散ノ期至レバ髓腔中ノ水液ハ殆ンド若クハ全ク消失ス卽チ消費セラル、コハ簡單ナル試驗ニヨリテ證明セラレ得ベシ、例ヘバ *C. radiatus* ノ菌蕈ニハ胞子分散ノ行ハルベキ日ノ前夜ニ於テ急激ナル菌柄伸長ノ行ハル、モノニテ此際外界ヨリハ何等ノ水分供給ヲ受クルヲ要セズ、體内ニ貯畜セラレタル水液ハ細胞ノ著甚ナル膨大ヲ爲サシムルニ足ル、今胞子分散期(此時期ハ菌傘組織ヲ通シテ見ラルヽ胞子塊ガ急ニ暗色ヲ帶ブ事ニヨリテ知ラル)ノ前夜濕氣ニ富メル培養地(例ヘバ馬糞上)ニアル菌蕈ヲ取リ來リテ終夜濕潤空氣中ニ垂直ニ立タシメ置ケバ翌朝ニ至リテ該菌蕈ハ馬糞上ニアリシ物ト同樣ナル激甚伸長ヲナセルヲ見ルベシ、此試驗ニ於テハ濕潤空氣中ニ在ラシメシヲ以テ髓腔中ノ水液ノ需用ハ未ダ甚大ナラザルベキモ、野生ノ狀態ニアル菌蕈ニ對シテハ尚大ナル需用ヲ滿スナルベシ髓腔中ニ水液ヲ貯畜スル例ハ尚 *Pathyrella disseminata* (Pers.) Quel. ノ若キ菌蕈ニ於テ最モ明カニ見ラル、今此菌蕈ヲ取リテ乾燥空氣中ニテ細キ針ヲ以テ之ニ穴ヲ穿ツ時ハ空氣ハ髓腔中ニ浸入シ其中ニアル水液ヲ菌蕈ノ一端ニ驅逐ス、爲メニ初メ透明ナリシ菌柄ハ漸次乳白色ヲ帶ブヲ見ルベシ、本菌柄ノ皮質部菌絲ハ氣密ニ結合シ居ルモノニテ、ヨシ髓腔ガ水液ニテ充柄セラルヽトモ其水液ハ皮質部ヲ通ジテ外部ニ出ズル事ナシ、而モ其菌蕈ノ先端ニ多キ排水毛茸ハ常ニ水滴ヲ擔フ之レヲ見レバ吸入セラレタル水液ノ過剩ハ菌柄皮部ニ出デヽ蒸發シ去ルニアラズシテ此排水毛茸ニヨリテ自力的 (Aktiv) ニ排泌セラルヽモノナルベシ、一方 *Coprinus lagopus* Fr. ニ於テハ其菌柄ヨリモ亦水液ノ排泄セラルヽヲ見ル本菌ヲ充分ナル濕氣ヲ含メル土地及ビ空氣中ニ在ラシムレバ彼ノ急激ナル菌柄伸長期ノ前ニハ菌柄ハ大ナル數滴ノ水液ヲ擔フヲ見ル此液ハ無色稀ニハ帶黃色ノ透明液ニシテ之ヲ硝子盤上

○斑葉ヲ有セルつゆくさ

田原正人

余ハ本夏偶然ニモ東京小石川植物園ニ於テ斑葉ヲ有セルつゆくさがしろつめくさノ如キ雜草ニ交リテ野生ノ狀態ニ於テ五六本一ケ所ニ集合シテ生育セルヲ發見ス、勿論此ノ斑葉的性質ガ遺傳性ノモノナルカ又如何ナル素因ニヨリテ生ジタルモノナルカ等ノ問題ニ就キテ今何等ノ解答ヲ下ス事能ハザレドモ一ケ所ニ集合スル事ヨリ見レバ或ハ昨年偶然變化的ニ生ジタル斑葉ヲ有スルつゆくさノ一個體ノ種子ガ散ジテ本年ニ於ケル斑葉性つゆくさ現出ヲ見タルモノニアラザルカトモ想像セラル、

○菌蕈ノ液體排泌

纐纈理一郎

本稿ハクノル氏ガ獨乙植物學會總會席上ニ於テ講演セラレ更ニ補正ヲ加ヘテ同會々報誌上ニ發表セラレシモノノ抄譯也(Berichte d. Deut. Bot. Gesellsch. Bd. XXX, 1912, 1. Generalversam.-H. PP. 33-44. 參照)

帽菌類ノ或種ノ菌蕈ハ水ヲ排泌スル特種ノ器官ヲ有ス此器官ハ又同時ニ物質代謝ノ際生ゼル不用物質ヲモ排泄スルモノニテ、其形態ハ種々アレドモ要スルニ一種ノ排水細胞(Hydathoden)タルニ過ギズ、第一ニ述ブベキハ排水毛茸(Trichomhydathoden)トモ稱スベキ單細胞ノ毛茸(Haare)ニテ其先端ヨリ水滴ノ排泌セラルヽヲ見ル。此物ハ種ニヨリテ菌蕈ノ生殖部ニ限ル事アリ生殖部以外ニ限ル事アリ時ニハ又其何レノ部分ニモ分布ス、其形ニ多少ノ差異アレド多クハ所々ニ纔レヲ生ジ脚部腹部頸部頭部等ヲ區別シ得、水液排泌ノ個所ハ常ニ細胞膜ノ粘液化(Verschleimung)セルヲ認メラルベク、其粘液中ニハ屢〻修酸石灰又ビ樹脂樣質ノ排泄セラルヽヲ見ル、水液排泌ノ最モ顯著ナル *Pencolus hetrolus*(Schaeff.)Bres. ヲ例ニ取リテ述ベンニ、本菌ヲ充分ニ濕氣ヲ含メル馬糞上ニ培養シ且硝子鐘ヲ蓋ヒ置ケバ菌柄及ビ菌傘表面ノ緣ニ近キ部ハ大小ノ水滴ヲ以テ被ハルヽニ至ル、然レドモ菌傘ノ頂點部ニハ何等ノ水滴ノ生ズルヲ見ズ、此排泄セラレタル液體ヲ硝子盤上ニ乾燥セシムレバ漸次濃厚トナリ遂ニハ淡黃色透明無組織ノ物質トナリテ殘ル、之ニ水ヲ加フレバ再ビ溶解ス、コハ一種ノ粘液ト見ルベキモノナルベシ、今菌柄ノ斷片ヲ作リテ見レバ其最外菌絲層ニハ無數ノ毛茸アリ其頭部ヨリ水液ノ排泌セラレアルヲ見ルベク、又毛茸ト毛茸トノ間ニ互リテ粘液質絲ノ掛ルヲ見ル、コハ排泄セラレシ液體ノ蒸發殘渣ナルベシ、胞子分散ノ初マレル際菌褶ノ斷片ヲ製シテ見レバ既ニ肉眼ニテモ其邊緣ニ水滴ヲ認メ得ベク之ヲ鏡檢スレバ矢張リ此處ニテモ毛茸ニヨリテ水液ノ排泌セラルヽヲ確カメ得ベシ、菌柄ノ一毛茸ヲ取リテ檢スレバ其頭部ハ膨大シ此部ノ細胞膜ハ

6. *Ditrichum divaricatum* Mitt.
7. *Entodon atrovirens*, Mitt.
8. *Fissidens cristatus*, Wils.
9. *Farnebrenia trichomitria*, (Hedw.) Lindb.
10. *Girgensohnia ruthenicum*, (Weim.) Lindb.
11. *Gliphomitrium Wilsoni* Mitt.
12. *Hypnum schreberi*, Wild.
13. *Haplocladium capillatum*, (Mitt.) Broth.
14. *Isothecium diversiforme*, (Mitt.) Besch.
15. *Lophocolea composita*, Mitt.
16. *Leucodon dozyoides*, Broth et Paris.
17. *Mnium leviverve*, Card.
18. *Mnium tousoui*, Schimp.
19. *Macromitrium Makinoi*, Broth.
20. *Neckera yezoana*, Besch.
21. *Okamuraea intricata*, Broth.
22. *Oligotrichum Uenoanum*, Broth.
23. *Oxyrrhynchium rusciforme* (Nack.) Warnst.
24. *Philonotis cavinata* Mitt.
25. *Pterobryum arbuscula*, Mitt.
26. *Plagiothecium neckeroideum*, Br. eur.
27. *Pilotrichopsis dentata*, (Mitt.) Besch.
28. *Physcomitrium sabatieri*, Besch.
29. *Polytrichum spurotheciun*, (Besch.) Proth.
30. *Rhytidiodelphus calvescens*, (Wils.) Broth.
31. *Racomitrium fasciculare*, (Schrad.) Brid.
32. *Stereodon haldonianus*, (Greb.) Lind.
33. *Sphagnum japonicum*, Warnst.
34. *Sphagnum girgensohnii*, Russ.
35. *Sphagnum cymbifolium*, (Ehrh.) Warnst.
36. *Stereodon tristo-viridis*, Broth.
37. *Thuidium abietinoides*, Broth.
38. *Viguiera fruticella*, (Mitt.) Broth.

○木蘭科植物ノ果實ニ就テ

田原正人

既ニ成書ニ記サレタル事カモ知レザレドモ未ダ知ラザル人ノ爲メニ報ゼンニ、九月ノ候こぶし、おほやまれんげノ如キ木蘭科植物ノ蒴果ヲ注意シテ觀察スル時ハ、赤キ假種皮（アリルス）ヲ被リ特ニ人ノ目ヲ惹ク所ノ種子ガ、彈性アル白色ノ絲狀體ニヨリテ果皮ヨリ懸垂スルヲ見ルベシ、此ノ絲狀體ヲ顯微鏡下ニ檢スルニ、面白キ事ニハ此ノ絲狀體ノ全部ガ數十本ノ纖細ナル螺旋狀ニ卷ケル絲ヨリ成立スル事ヲ發見ス、コレ言フマデモナク當初胚珠ニ養分ヲ送ル道トナリ居リタル維管束ノ變形セルモノニシテ螺旋狀ノ絲ハ螺旋紋假導管ノ肥厚部ニ相當スルモノナルベシ、

○假根ノ向地性

田原正人

蘚苔植物、羊齒植物ニ見ルトコロノ假根ノ向地性ニ就キテハ既ニハーバラント氏ウァイナート氏等ノ研究公ニセラレタルガピシヨッフ氏ノ最近ノ研究ニヨル時ハせにごけノ葉狀體ノ表面ニ常ニ見ルトコロノ杯狀體ノ內部ニ存スル葉芽體(Brutknospen)ニ生ズル假根ハ最初短カキ間ハ殆ド向地性ヲ見ル事能ハズト雖ドモ次第ニ生長スルニ從ヒ極メテ顯著ナル向地性ヲ表ハシ又せにごけノ葉狀體ノ裏面ニ存スル假根モ微弱ナガラ確ニ向地性ヲ表ハスト云フ、又次ニねのもとさうナドノ原葉體(プロタリウム)ニ存スル假根ハ毫モ向地性ヲ表ハス事ナク蘚類中ノしろごけ、はりがねごけ(ハウプトリゾーデン)等ノ主生假根(ザイテンリゾーデン)ハ向地性ヲ示スト雖モ側生假根ハ又全クカヽル作用ヲ示ス事ナシト云フ、

是等ノ向地性ヲ示ス所ノ假根ノ尖端部ニ於テ向地性ト何等カノ關係ヲ示スベキ粒狀體存スルカト云フニピシヨッフ氏ニヨレバ唯蘚類ノ主生假根ノ尖端部ニ澱粉粒ノ存在ヲ證明シ得ルノミニシテ苔類ノ葉狀體ノ假根ノ如キモノニ於テ全クカヽルモノヽ存在ヲ認ムルコトヲ得ズト云フ、茲ニ於テ氏ハ從來屢論議セラレタル所ノ高等植物ノ根ノ向地性ノ如キモ必シモ澱粉粒ノ如キモノヽ作用ヲカラズトモ又完全ニ遂行セラルヽモノナルベシトノ考ヲ公ニセリ、

○信州產鮮苔類目錄

大日向金龍

先年小生ガ淺南蓼北地衣苔蘚目錄ト題シテ北信南部ノ採集品目ヲ斯界ニ報ゼシガ其後一般植物採集ノ爲メ信州諸山ヲ巡ルニ當リ得タル蘚苔等少ナカラズ今回其一部ヲ報ゼントスルニ際シ先キノ淺南蓼北ト限リタルハ聊カ地域ヲ小ニ限定シ過ギタルノ憾アリ依テ此所ニ信州蘚苔目錄ト改題シ其第二回ヲ報ゼントス、コハ多ク白馬嶽、御嶽、駒ケ嶽、荒船山、碓氷峠、淺間山、其他平地ノ產ニ係ル、尙不明品多々斯道專門家ノ手ニ研究ヲ依賴シアリ、遠カラズ報ズルコトヲ得ベキカ、又地衣及ビ菌類等モ出來得ル限リ採集シ夫々專門家ニ依賴シテ種名ヲ取リ調ベツヽアレバ是亦近ク報ズルコトヲ得ベシ

(1)　苔類

1. *Blasia pusilla*, (L.)

(2)　蘚類

1. *Bartramiopsis Lescurii*, (James.) Lindb.
2. *Bartramia pomiformis*, (L.) Hedw.
3. *Bissetia lingulata* (Mitt.) Broth.
4. *Campylium rufo-chryseum*. (Schimp.) Breth.
5. *Campylium hylocomioides*. (Strub.) Lindb.

岐若クハ三叉ニシテ夫レ以上ノモノハ殆ド之ヲ見ズ前者ニテハ兩岐三叉ハ罕ニシテ四出、五出又ハ以上ノモノヲ見ル故ニ前人ガ二者ヲ區別スルニ當リ一ノ花序ハ纖形ナリトシ他ハ然ラザル樣ニ記シタルハ其由緣アルヲ見ルナリ

○くろづる學名ノ變更ニ就テ

松田定久

本誌二十四卷二八四—二八六頁ニ昆明山海棠處卽くろづるノ屬ニ關シ牧見ヲ述ベタルコトアリシニ今度武田久吉君ハ英國キユウ植物園所藏ノ材料ニ基キテ此ノ屬ヲ研究セラレタル結果ノ報告アリ(Bull. Miscel. Inform., Kew, 1912, pp. 221—223) 氏ニ從ヘバ本屬ハ二種一變種ヲ有シ從來ノくろづるノ學名ニ變更アリ卽

Tripterygium Wilfordii Hook. f. = *T. Wilfordii var. Bullockii* Matsuda.

Folia subcoriacea, longe et saepe caudato-acuminata, margine crenata, utrinque 5-vel 6-costata. *Rami* castanco-brunnei, verrucosi, ferrugineo-birtelli, ramulis ferrugineo tomentosis. *Fructus* alis basi plerumque truncatis vel breviter cordatis, apice subtruncatis vel leviter emarginatis margine integris.

産地ハ臺灣、雲南、湖南等

T. Regelii Sprague et Takeda sp nov. *T. Wilfordii* Max. A specie praecedente differt praesertim foliis majoribus chartaceis acutis vel acuminatis utrinque 6 — 9 costatis margine grosse crenatis; ramis minus verrucosis, glabris vel pilosis, ramulis glabrescentibus vel albido-birtellis; inflorescentia floribunda; fructibus majoribus, alis basi profunde cordatis apice emarginatis margine irregulaliter sinuatis.

産地ハ日本九州、羽前、羽後及朝鮮

此新種ハ卽吾人ガ通常くろづるト稱スル種ナリ此屬ノ外武田君ト同書ニ於テ日本植物ヲ論ゼラレタルモノ數多アリ皆注目スベキモノナルモ本屬ノ記事ニ就テハ關係カ余ニ及ビタルヲ以テ先ヅ之ヲ抄出セリ

var. *excisum* Sprague et Takeda. — Differt a typo foliis utrinque 6—9 costatis, fructibus paulo majoribus, maturis purpureo-ruibris, alis basi cordatis apice profunde et aperte emarginatis.

産地ハ雲南

此變種ノ果實ノ色彩ハ植物名實圖考三十六卷載スル所ノ昆明山海棠ニ一致ス或ハ新種ナランモ材料不足ノ故ヲ以テ變種ニ加ヘラレタリト云フ

體ニハ中肋不明了ナルヲ以テ、『脈ナキこけ』ト云フ意ニテ Dumortier 氏ノ命名セルモノナリ。和名ハ全體柔軟ナル所ヨリ名ク。

一八、**Anthoceros** L. **つのごけ**。……（苔）

Antho＝Anthes＝花、ceros＝keras＝角。本屬ノ子嚢ハ角狀ヲナス。Linne 氏ハ此ノ子嚢ヲ花ニ見立テテ、『角狀ノ花アルこけ』トノ意ニテ命名セルモノナリ。和名ハ原語ノ意ヲ以テ名ク。

一九、**Acrolejeunea** Spruce. **ながえごけ**。……（苔）

Acro＝頂上、lejeunea＝Lejeunea 屬（コノ屬ハ現今數多ノ屬ニ分レ、單ニ Lejeunea トニ云フ屬名ハ一個ノ異名トナレリ）。本屬ノ子嚢ハ長キ枝ノ上ニ頂生スルヲ以テ、『頂生子嚢ヲ有スル Lejeunea トニ云フ意ニヨリテ Spruce 氏ノ命名セルモノナリ。和名ハ長キ枝ノ上ニ子嚢ヲ有スル點ヨリ『長キ柄即チ枝ノ上ニアル子嚢ト云フ意』ヲ略シテ名ケタリ。

（附言）Aノ部ノ苔類尚ホ二屬アリ、之ハ後ニ記スベシ。

○再ビみつばニ就テ

松田定久

本誌二九七號三九八頁ニみつば（ヌみつばせり）ニ適用セラレタル舊名 *Cryptotenia canadensis* DC.ノ非ナルコトヲ報ゼリ當時余ハ北米產ノ此植物ノ標本ハ僅ニ一個ヲ見タルノミナリシガ頃日同國 Cornell 大學ニ留學中ノ石川光春君ノ惠ニ依リテ此種ノ完全ナル標本ヲ得タリ同君ガ學校所在地ニテ採取セラレタルモノニシテ同所ニハ普通ニアリトノコトナリ之ヲ日本產ノ近類ニ比較スルニ卽以前ニモ記シタルガ如クみつばニテハ花序ニ總苞（involucre）ヲ有シ又其葉ニ於テハ三小葉ハ概ネ無柄ナリ殊ニ左右ニ位スル二小葉ニハ柄ヲ有スルヲ見ズ *C. canadensis* ニテハ總苞ヲ缺クヲ通則トス但シ小苞（involucel）ハ之ヲ具フ小葉ハ三個トモニ短柄ヲ有ス小葉柄ヲ檢スルニハ莖ノ下部ニ位スル十分發育シタル葉ヲ可トス此事ニ就キ以前ニ報告セル後本誌三〇二號四五頁ニ牧田淸一君ノ報告アリ氏ハ信州產ノ標本ヲ檢シ *C.canadensis* ノ日本ニ產スルコトヲ報ゼラレ之ニみつばせりもどきノ新名ヲ下サレタリ余ハ未ダ日本產ノモノヲ檢スルノ機會ヲ得ザルモ石川君ヨリ北米產ノ標準品ヲ得タルニ因リ重ネテ之ニ關シテ報告シ且同君ニ深謝ス

因ニ記ス Britton et Brown 二氏ノ合著（Ill. Fl. North America）ニハ *Cryptotenia canadensis* ノ名ヲ改メテ *Deringa canadensis* Kuntze トセリ

此稿ヲ草シタル後更ニ石川君ヨリ果實ノ熟シタル標本ノ贈與アリ因テ熟果ヲ有スル時期ニ達シタル日本產ノ植物（みつば）ニ比較スルニ後者ニテハ花序ノ分枝ハ兩

何ナルモノナリシカハ現今不明)ナリシガ、轉ジテmossノ意トナリシモノ。眞ノ Bryum 屬ニ似タレドモ、其葉ノ網眼(組織ノ網目狀ヲナスモノ異ナル』ヲ以テ『法則ニハヅレタルこけ』トノ意ニヨリテ SCHIMPER 氏ガ命名セルモノナリ。之ハ始メ Bryum 屬ノ亞屬トナシタレドモ、更ニ同氏ニヨリテ獨立ノ屬トセラレタルモノナリ。和名ハ原語ノ意ヲトリテ、似テ非ナル卽チいぬト、Bryum ノ和名まごけトヲ合シテいぬまごけトセルモノナリ。

一一、**Aërobryopsis** FLEISCH. みづひきごけ。……(蘚)

Aëro＝空氣、bry＝bryum＝こけ、opsis＝似タル。本屬ハ Aërobryum 屬ニ似タルヲ以テ『Aërobryum ニ似タルこけ』トノ意ニテ FLEISCHER 氏ノ命名セルモノナリ。Aërobryum ノ意ハ、此ノ屬ノモノハ樹枝ヨリ懸垂スルヲ以テ『空中ニアル蘚』トノ意ナリ。Aërobryum 屬ハ本邦ニ未ダ知ラレズ。みづひきごけト云フ和名ハ、本屬植物ハ細長クシテ進物ヲ結ブ水引ニ似タルヨリ名ク。

一二、**Archidium** BRID. つちごけ。……(蘚)

Archidium＝ἀρχείδιον＝archidion＝primitiv＝原始的。本屬植物ハ其ノ子嚢ノ構造甚ダ簡單ニシテ原始的ナルヲ以テ斯ク命名セルモノナリ。命名者ハ BRIDEL 氏ナリ。和名ハ本屬植物ノ形態甚ダ微小ニシテ、土ヤラこけヤラ分別シ難キ所ヨリ命名セルモノナリ。

一三、**Amblystegiella** LOESK. やごけ。……(蘚)

Amblystegi＝Amblystegium。Amblystegium ニ似テ小サキモノトノ意ニテ命名セルモノナリ。和名やりごけハなぎなたごけニ對シテ名ケタリ。

一四、**Atrichum** PALIS.

A＝無キ、trichum＝τρίχα＝Thrix＝毛。蘚帽ニ毛ナキ所ヨリ名ク。之レ近屬ナル Pogonatum, Polytrichum 等ニハ毛ヲ有スルヲ以テナリ。本屬名ハ Catharinea ノ異名ニシテ現今多ク用ヒラレザルモ、往々之ヲ用ユル人アルヲ以テ玆ニ參考トシテ誌スコトトセリ。

(附言)A ニ屬スル蘚類尙四屬アレドモ、其解說ハ後ニ記スベシ。

一五、**Aytonia** FORST. みかんごけ。……(苔)

蘇格蘭ノ植物學者 W. AYTON 氏ノ名ヲトリテ、G. FORSTER 氏ノ命名セルモノナリ。和名ハ其ノ子嚢みかんノ果實ニ似タルヨリ名ク。

一六、**Anastrophyllum** SPR. あみばごけ。……(苔)

Anastro＝網目、phyllum＝葉。本屬ノ葉ノ中部細胞ハ、甚ダ厚キ膜ヲ有シテ相互結合シ、其ノ狀網目ニ似タルヲ以ヲ『網目狀ヲナセル細胞アル葉』トノ意ニヨリテ STEPHANI 氏ノ命名ナリ。和名ハ原語ノ意ヲトレリ。

一七、**Aneura** DUMORT. やはらごけ。……(苔)

A＝無キ、Neura＝Neurose＝脈アルコト。本屬ノ葉狀

四、**Anomoden** Hook. et Tayl.　つぶだけ。……（蘚）

A＝ἀ＝無キ意、nomo＝νομο＝規則正シキ、故ニ Anomo ニテ不規則ノ意、odon＝ὀδων＝齒＝緣齒。始メ本屬植物ノ外緣齒間ニアル突起物ヲ誤認シテ外緣齒ガ對ヲナスト考ヘ、爲メニ他ノ普通ナルモノニ對シテ不規則トシ『不規則ノ緣齒アル植物』トノ意ヲ以テ W. J. Hooker 及ビ Taylor 兩氏ノ命名セル所ナリ。和名いとぐけハ全體細クシテ絲ノ如キ狀ヲナスヲ以テ名ク。

五、**Astomum** Hamp.　つぶだけ。……（蘚）

A＝ἀ＝なきノ意、Stomum＝στομα＝Stoma＝口＝子囊口、本屬ノモノハ蘚蓋不完全ニシテ脫落セズ、隨ツテ子囊ハ一般蘚類ニ於ケルガ如ク開口セズ、故ニ『子囊口ナキ蘚』トノ意ヲ以テ E. Hampe 氏ガ命名セルモノナリ。和名ハ子囊圓クシテ甚ダ小サク、微細ナル粒狀ヲナスヲ以テ名ク。

六、**Aulacómitrium** Mitt.　はいからごけ。……（蘚）

Aulaco＝αὐλαζο＝aulako＝皺又ハ溝、mitrium＝μιτριον＝mitron＝a little cap＝烏打帽子狀ノ帽卽チ蘚帽。本屬植物ノ蘚帽ハ縱ニ數條ノ皺アルニヨリ『皺アル蘚帽』トノ意ヨリ Mitten 氏ガ命名セルモノナリ。和名ハ本屬植物ノ花葉長クシテ子囊柄ノ大部分ヲ卷キ『高襟狀』ヲナスヲ以テ名ク。

七、**Aloina**（C. Müll.）Kindb.　ろくわごけ。……（蘚）

Aloi＝ἀλοε＝蘆會。本屬植物ノ全體殊ニ葉ノ叢生セル狀ハ蘆會ニ似タルヲ以テ『小サキ蘆會』トイフ意ニヨリテ C. Müller 氏ガ命名シタルモノニシテ、氏ハ Barbula 屬ノ一群ノ名トセルモノヲ後ニ至リ N. C. Kindberg 氏ニヨリテ獨立ノ屬トセラレタルモノナリ。蘆會ハ百合科植物ニシテ其ノ學名ハ Aloe vera L. トイフニ和名ハ原語ニヨリテ命名ス。

八、**Aulacómnium** Schwaeg.　ひもごけ。……（蘚）

Aulaco＝αὐλαζο＝aulaco＝皺、mnium＝μνιον＝mnion＝蘚類。子囊ニ縱皺アルニヨリ『皺アルこけ』トノ意ヲ以テ F. Schwaegrichen 氏ノ命名セルモノナリ。和名ハ植物全體ノ乾燥セル狀態、恰モ組紐狀ヲナスモノ普通ナルヲ以テ名ク。

九、**Aulacópilum** Wils.　しわごけ。……（蘚）

Aulaco＝皺、Pilum＝pilos＝毛氈狀ヲナス毛。本屬ノ某種ニハ、皺アリテ毛アル蘚帽ヲ有スルヲ以テ『毛アツテ皺アル蘚帽』トノ意ヨリ Wilson 氏ノ命名セルモノナリ。

一〇、**Anómobryum** Schimp.　いぬまごけ。……（蘚）

A＝無キ又ハ反對、nomo＝νομο＝正シキ、bryum＝βρυον＝Bryon＝希臘語ノ或ル隱花植物ノ名（此ノ植物ハ如

勸ムルニ之ヲ本誌ニ投ジ、以テ一般學者ノ參考トナサンコトヲ以テセリ、爾來荏苒今日ニ至リ、近ク同好ノ士ノ書ヲ寄セテ余ニ此ノ解ヲ質スモノ少ナカラズ、故ニ今後本誌ノ餘白ヲ借リ、號ヲ逐フテ漸次ニ之ヲ誌セントス。若シ其解ニシテ誤謬アランカ、讀者幸ニ叱正ノ勞ヲ吝ムナカランコト望ンデ止マザル所ナリ。

學名ノ解釋ニ際シテ、余ハ數年前ヨリ撰定セル其ノ和名ヲモ附記セリ。抑モ本邦産蘚苔類ニハ古クヨリ其ノ和名ヲ有スルモノ甚ダ少シ、故ニ新ニ和名ヲ撰定スルニ際シテ、余ハ之ヲ學名ノ如ク全然二命法ヲ採ラントシ、數年前余ガ意見ヲ牧野先生ニ陳ジ、大ニ其ノ贊成ヲ得タルヲ以テ、其ノ後余ハ新ニ和名ヲ撰定スルニ當ツテハ、常ニ此ノ意ヲ以テ命名セリ。今茲ニ附記スル所ノ和名ハ、其ノ屬名ノ和名ニシテ、其ノ名ハ既ニ先輩學者ノ命ジタルモノニヨリ、又多少ノ變更ヲ加ヘ、或ハ余ガ新ニ命名セルモノナリトス。若シ其ノ和名ニシテ呼稱ニ不便ニ、又其ノ名ノ雅ナラザルモノアリテ、他ニ之ニ代フルニ良キ名稱ヲ呈供セラルルアランカ、余ハ其ノ好意ヲ謹謝セントス。

以下解釋セントスル屬名ノ順序ハABC順トセリ、但シABC順ハ唯第一頭文字ノミニヨリテ順序シ、第二以下ノ文字ニツキテハ序ヲ整ヘズ。蘚類ト苔類トヲ區別スルニハ、其ノ名稱ノ下ニ(蘚)、又ハ(苔)ノ字ヲ以テス。

一、**Andreæa** Ehrh.　くろごけ。……(蘚)

獨逸ハノーバー(Hannover)ノ製藥家ニシテ、植物學ニ熱心ナリシ、J. G. R. Andrea 氏ノ名ヲトリテ、有名ナル蘚學者 F. Ehrhart 氏ノ命名セルモノナリ。和名ハ本植物ノ外觀多クハ黑褐色乃至黑色ヲ呈スルニヨリテ先輩ノ既ニ命名スル所ナリ。

二、**Amblystegium** Br. eur.　なぎなたごけ。……(蘚)

Ambly=$\alpha\mu\beta\lambda\upsilon$=鈍頭、Stegon=$\sigma\tau\acute{\epsilon}\gamma\eta$=屋根、卽チ蘚蓋ヲ意味ス、卽チ圓錐狀ヲナセル蘚蓋ト云フ意。此ノ名ハ Ph. Bruch 名ビ W. P. Schimper 兩氏ガ其著 "Bryologia Europæa" ニ於テ初メテ命名發表セルモノナリ。和名ハ本屬ノ子嚢ハ稍大クシテ少シク薙刀狀ニ彎曲セルニヨリテ名ク。

三、**Anœctangium** Schw. Aeg.　めんぼうごけ。……(蘚)

Anœct=ἀνοικτο=Anoikto=廣濶ナル、angium=$\alpha\gamma\gamma\epsilon\tilde{\iota}o\nu$=Angion=Vessel=管=細長キ子嚢ヲ意味ス。本屬植物ノ某種、例ヘバ A. compactum Schw. ノ如キハ、緣齒ヲ缺キ、蘚蓋脫落スルトキハ子嚢口ハ爲メニ甚ダ廣濶トナルヲ以テ『廣キ口ノ子嚢』ト云フ意味ヲ以テ F. Schwaegrichen 氏ノ命名セルモノナリ。和名ハ本屬ノ蘚蓋ノ嘴細長ク、之ト子嚢柄トガ子嚢ノ兩端ニアル狀態、恰モ麵棒ニ似タルヲ以テ名ク。

Lenzites japonica Berk. et Curt.

（所屬）同上。

菌傘ハ無柄ニシテ、半圓狀ヲ爲シ、扁平ニシテ、革質ヲ帶ブ、長徑八乃至一七「センチメートル」、短徑六乃至九「センチメートル」アリ、表面ハ平滑ニシテ、灰白色ヲ呈シ、數多ノ輪層ヲ具フ、菌傘ノ實質ハ材色ヲ帶ブ、裏面モ材色ニシテ、菌褶ハ數回叉分ス、長野縣北佐久郡、布施村ニ產ス、大日向金龍氏ノ採集ニ係ル。

○うらじろうろこたけ（新稱）

Stereum bicolor (Pers.) Fries

（所屬）基菌門、眞正基菌亞門、同節基菌區、帖菌亞區、いぼたけ科（*Thelephoraceæ*）。

菌傘ハ無柄ニシテ、半圓形ヲ爲シ、往々背面ヲ以テ樹皮面ニ固著ス、薄クシテ革質ヲ帶ビ、長徑三乃至五「センチメートル」短徑二乃至四「センチメートル」アリ、表面ハ褐色ニシテ、天鵞絨樣ノ密毛ヲ被ムリ、著シキ輪層ヲ具フ、菌傘ノ實質ハ褐色ナリ、裏面ハ平滑ニシテ、白色ヲ呈ス、愛知、群馬、岩手、諸縣ニ產ス。

○新稱ひめよつばはぎ

中井猛之進

備中高梁ノ吉野善介氏、本夏七月同國川上郡福地ニテ種ノ莖科植物ヲ採リテ余ノ許ニ送レリ、其形狀內地產ノよつばはぎニ似テ小葉片ハ廣披針形ナルカ又ハ長卵形ナリ之レバイカル地方ヨリ滿鮮北淸ニ亘リテ產スル者ナリ。マキシモウヰッチ氏嘗テ之レヲ九州熊本附近山地ノ灌木林中ニ採リ之レヲ Melanger Biologique. 第九卷ニ記セリ之レ內地產トシテ知ラレシ始メナリ其後ニアリテハ今回ノモノ初發見ニ屬ス、吉野氏和名ヲ下シテ「ひめよつばはぎ」ト云フ、滿鮮地方ニアリテハヨク發育シ「ひめ」ノ語ヲ用キルハ不適當ナレドモ採收者ノ功ヲ紀念シテ其名稱ヲ採用スルコトトス、學名ヲ *Vicia repens* (Willd.) Maxim. var. *baicalensis* (Turcz.) Maxim. ト云フ、

○日本產蘚苔類屬名解說（一）

岡村周諦

動植物ノ學名ヲ記憶セントスルニ際シ、其ノ學名ノ意味ヲ解セズシテ之ヲ鵜呑ミニセントスルハ、實ニ乾燥無味ニシテ且記憶ニ困難ナルコトハ學者ノ常ニ經驗スル所ナリトス。若シ夫レ學名ノ意ヲ解シ、其ノ據ツテ名クル所以ヲ了スレバ、其ノ記憶甚ダ容易ニシテ之ヲ忘却スルコト少ナク、又學名ニ對スル興味ヲモ生ズルニ至ルベシ。以上ノ主旨ニヨリ、余ハ數年前、余ガ研究方面タル蘚苔類ノ屬名ニツキテ解釋セント欲シ、諸書ヲ參酌シ、更ニ伊太利ノ Dr. Emilio Levier 佛蘭西ノ Dr. P. Culman 那威ノ Dr. I. Hagen. 北米合衆國ノ E. B. Chamberlain 等ノ同學諸氏ニ質シ、本邦產蘚苔類約三百屬ノ名稱起源ヲ解釋シ之ヲ備忘トナシタリキ、當時三宅理學博士余ニ

緣圓クシテ、直徑五乃至一二「センチメートル」アリ、表面ハ平タクシテ、中心深ク凹ム、褐色ヲ呈シ、大ナル厚キ黑褐色鱗片ヲ以テ被ハル、裏面ニハ菌刺密生シ、其長サ二乃至三「ミリメートル」アリテ、灰白色ヲ帶ビ、後ニ褐色ニ變ズ、菌柄ハ淡褐色ニシテ、長サ二·五乃至五「センチメートル」太サ一·二乃至二「センチメートル」アリ、基子ハ褐色ニシテ、疣粒ヲ帶ブ、本菌ハ外觀からたけ（*Phaeodon asprates* [Berk.] P. Henn.）ニ似タレドモ香氣ナシ、採テ食用ニ供スベシ、仙臺ノ林地ニ生ズ。

○うづらたけ（新稱）

Polyporus ochroleucus Berk.

（所屬）基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、さるのこしかけ科、さるのこしかけ亞科。

菌傘ハ無柄ニシテ、半圓形ヲ爲シ、着點隆起ス、栓質ヲ帶ビ、長徑二乃至四「センチメートル」、短徑一乃至二「センチメートル」アリ、表面ハ淡橙黃色ヲ呈シ、平滑ニシテ、放射狀ノ細カキ皺、竝ニ輪層ヲ具フ、菌傘ノ實質ハ材色ヲ帶ブ、裏面ハ淡橙黃色ニシテ、菌管ハ長ク、管孔ハ圓クシテ、頗ル小サシ、仙臺市內ニ於ケル、びはノ幹上ニ生ズ。

○えびらたけ（新稱）

Polyporus dichrous Fries.

（所屬）同上。

菌傘ハ無柄ニシテ、重生シ、略ボ半圓形ヲ爲ス、硬キ肉質ヲ帶ビ、薄クシテ屈曲ス、長徑一·五乃至三·五「センチメートル」、短徑一·五乃至二「センチメール」アリ、表面ハ白クシテ、絹樣ノ密毛ヲ被ムリ、輪層ハ著シカラズ、菌傘ノ實質ハ白色ヲ呈ス、裏面ハ蝦色ニシテ、菌管ハ短ク、管孔ハ多角形ヲ爲シ、頗ル小ナリ、仙臺林地ノ切株上ニ生ズ。

○からめんたけ（新稱）

Polyporus sistotremoides Alb. et Schw. = **Polyporus Schweinitzii** Fries

（所屬）同上。

菌傘ハ扇狀ニシテ、重生シ、附元ハ延長シテ、不規則ナル短キ柄トナル、海綿樣栓質ヲ帶ビ、長徑七乃至一三「センチメートル」短徑六乃至九「センチメートル」アリ、然レドモ時ニハ、直徑三〇「センチメートル」ニ達スルモノナキニ非ズ、表面ハ褐色ニシテ、後ニ栗褐色トナリ、粗毛竝ニ密毛ヲ帶ブ、淺キ輪層アリ、菌傘ノ實質ハ銹褐色ヲ呈ス、裏面ハ黃綠色、後ニ銹褐色トナリ、管孔ハ大クシテ、往々割裂ス、基子ハ卵圓形ヲ爲シ、無色ニシテ平滑ナリ、長徑五乃至七 μ、短徑三乃至四 μ アリ、愛知縣幡豆郡、橫須賀村ニ產ス、松崎宇一氏ノ採集ニ係ル、本菌ハ曩ニ、ひらはりたけもどきノ名稱ヲ附シ置キシモノナリ。

○おほかひがらたけ（新稱）

シ遠心的輪ヲナスコト多ク其ノ內ニ綠褐色ノ小疣點數多ヲ不規則ニ散生ス、小疣點ハ初メ表皮下ニ生ジ後ニ表皮面ニ顯ハル「レンス」下ニ檢スレバ擬子囊殼狀ヲ呈シ其ノ周圍ハ綠褐ナレドモ中央ハ白色ナリ、之ヲ鏡檢スレバ是レ胞子盤ノ周圍ニ密生セル硬毛ノ中央ニ向ツテ傾斜シテ被覆セルヨリ成ルモノナリ、此ノ病害ハ上記ノ小疣點ヲ蕃殖胞子堆トセル一種ノ不完全菌ノ寄生ニヨリ起ル者ニシテ胞子盤ハ直徑百八十ミクロンヲ有シ棍棒狀擔子梗ノ上ニ一箇ヅヽノ單細胞圓筒形ノ胞子（十三－十五ミクロン幅三・一－四、五ミクロン）ヲ擔ヘルヲ見ルベシ。周圍ノ硬毛ハ黑褐色ヲ呈シ牛角狀ニ尖リ起部徑二、六ミクロン長サ六五ミクロンヲ有シ一二ノ隔膜ヲ有ス、胞子盤ノ周圍ノ黑褐色厚皮菌組織ヨリ起リ擔子梗盤ヲ圍ム、胞子ハ長楕圓形少ク彎曲シ夥粒狀形質ヲ充タシ二三ノ油球ヲ含ム、之レヲ培養基上ニ養育シ多數ノ胞子堆積スル時ハ鮭紅色ヲ呈ス、擔子梗ハ胞子ト同長ニシテ橫徑少シク細シ

該菌ハ嘗テ千八百九十八年ノアック氏南米ブラジルニ於テ西洋苹果樹ニ發生セル者ヲ記載セルニ初マリ、後ブーパツク氏ハ墺國テロレンス州ニ於テ梨葉ヨリ發見シ千九百四年之レヲ墺國植物學雜誌ニ記述セリ予ハ北海道農事試驗場技師高橋農學士ノ厚意ニヨリ該雜誌ヲ參照スルヲ得タリ。該論文ニ於テ同氏ハ「嘗テ南米ニ於テノミ發生セル該菌ノ歐洲ニ於テ發見セラレタルハ甚ダ面白キ事實ナリ南米ニテハ苹果樹ニノミ發生セルニ歐洲ニテハ梨樹葉上ナルノ差アリト」予ハ今回該菌ヲ南米及ビ歐洲ヨリ遠隔セル東洋日本ニ發見シ歐洲ト同ジク梨樹上ナリシヲ不思議トスルナリ氏ハ該菌ハコレトトリカム屬ニ類似スレドモ其硬毛胞子盤ヲ圍繞シテ擬子囊ノ觀アラシムル所該屬ヨリ分離シテ *Colletotrichopsis* ナル新屬ヲ設クルノ價値アリトナシ其ノ學名ヲ次ノ如ク公表セラレタリ

Colletotrichopsis Piri (Noack) Buback *Forma tirolense* Buback. (Oester. Bot. Zeitsch. 1904. No. 45.)

該病ノ驅除豫防ニツキテハ未ダ實驗ノ機ナシト雖モ「ボルドウ」合劑ノ施用ハ有効ナル可キヲ信ズ、被害葉ノ燒棄ハ必要ナル豫防法ナリトス。

予ハ該菌研究上高橋農學士及白井理學博士ヨリ與エラレタル好意ニ對シ深厚ナル謝意ヲ表ス（福岡農學校病理研究室ニ於テ）

○菌類雜記（二二）

安田篤

○かのはな

Phaeodon imbricatus (L.) Schröt.

（所屬）基菌門、眞正基菌亞門、同節基菌區、幅菌亞區、はりたけ科（*Hydnaceae*）。

子實體ハ肉質ニシテ、菌傘ト中柄トヨリ成ル、菌傘ハ周

ルベカラズ。

著者ハ尚、熱帶ニ於ケル落葉ノ現象ハ氣候ニ關係ナク植物ニ遺傳的ニ定マレル性質ナリト云ヘルフォルケンス氏ノ言ヲ駁シ、落葉ハ同化作用ノ障害土地ノ乾燥高溫度等ニヨリテ早メラレ得ベキ既知ノ事實ヲ指摘シ、同一種植物ノ老樹ハ週期的ニ落葉スルニ拘ハラズ、幼樹ハ終歲落葉セザル例ヲ擧ゲ、落葉ノ現象モ外界ニヨリテ支配セラルヽ事ヲ說ケリ。

抑モ植物ノ生活現象ヲ究メンニハ宜シク其植物ト外界トノ關係ヲ精査セザルベカラズ、而シ總テヲ外界ニヨリテ說明セヨト云フニハアラズ、要ハ外界ト植物ノ特性トノ關係ヲ了知セント勤ムルニアリ、此際外界ノ働キハ直接ニアラズシテ間接ナリ、先ヅ植物細胞ニ變化ヲ及ボシ、而シテ後吾人ノ目擊スル現象トナリテ表ハル、此間ノ消息ヲ充分ニ理解センハ今日ニテハ不可能ナリ、以上ノ假設的說明ハ將來ニ於テ改良セラルベキモノニシテ、植物ノ內部體制上ニ關スル根本的問題ハ將來實驗的研究ニヨリテ解決セラルベキモノナリ。（R. Kokeitsu）

◎雜　錄

○梨の炭疽病に就て（豫報）

黑澤良平

明治四十三年六月福岡縣粕屋郡靑柳村果樹栽培家淸水喜一郎氏ヨリ梨ノ病葉ヲ寄送セラレタリ、是レ予ガ本病ヲ研究スルノ始メニシテ、其後同氏ノ果樹園ニ就キテ其ノ被害ノ狀況及ビ其ノ歷史ヲ聞キ取ルヲ得タリ謹デ同氏ノ好意ヲ謝ス、同氏ノ梨樹ハ明治四十年頃ヨリ黑星病ノ爲メニ非常ナル害ヲ被リ成功見込無ヲ以ヲ四十一年全部切リ接ヲナシ獨逸及ビ二十世紀ノ兩種トナセリ、然ルニ四十二年ヨリ一種ノ斑點病ニ犯サレ以來漸次被害ノ度ヲ增シ本年ニ至リテ最惡ノ狀況ヲ呈セリ被害ハ前記ノ獨逸種最モ甚シク二十世紀種之ニ次ギ長十郎種ノ如キハ最モ少ク早生赤種モ被害少シ樹齡ノ若キモノニ少ク老樹ニ高接シタルモノ被害多シ該地方ハ花崗岩ノ風化シタル壤土ニシテ傾斜宜シキヲ得排水佳良ナリ、肥料ハ堆肥ヲ主トシ大豆粕干鰯燐過酸石灰ヲ用ヒ同村產ノ梨ハ果汁甘味多ク品質良好ナルヲ以テ福岡市內ニ於テ販賣セラル最良ノ梨ノ評アリ

病狀、葉ニ發生スル時ハ初メ赤色ノ圓形斑點ヲ生ジ後ニ白斑ト變ズ斑點ハ二—三ミメアリ細胞枯死シ其ノ部陷落

ハスニ拘ハラズ、實驗ニ供セラレタル其レト同種ノ幼樹ハ絕ヘズ生長ヲ續ケタリ、コハ樹木ノ生長ニ必要ナル條件例ヘバ溫度濕度日光養料等ガ、幼樹ニ對シテハ比較的容易ニ供給ヲ充タサレ得ルニ反シ、老大樹ニ對シテハ一ケ年ヲ通ジテ其供給適宜ナラザルヲ意味スルモノニアラズヤ、又熱帶ニ於テ双子葉樹木ガ休眠期ヲ表ハスニ拘ハラズ、棕櫚科芭蕉科乃至羊齒類等ニ此事ナキハ其土地ガ前者ニ必要ナル養分ヲ含ム事少ナキ事、及ビ前者ハ後者ニ比シテ大多數ノ芽ヲ有シ從テ多量ノ新組織形成養分ヲ要スル事等ヲ以テ說明シ得ベシ、其他土地ノ物理的構造地中「バクテリア」及ビ菌類ノ作用等モ之ニ關係アルベシ。

熱帶ニ於テ週期現象ヲ現ハスハ、溫帶ノ原產地ヨリ移植セラレタル植物ニ於テ特ニ明カナルハ注目スベキ事ニテ、コハ原產地ニ於テ馴ラサレタル性質ノ後作用ト見ルベシ、而シ溫帶產ノ植物ガ永ク熱帶地ニ馴ラサレテ前性質ヲ失ヒ新性質ヲ帶ベル植物トナルヲ得ルヤ否ヤニ付テハ今姑ラク立チ入ラズ、本研究ノ要ハ一植物ニハ夫々一定セル體制上ノ特性アリ、一種類ガ氣候異ナレル他國ニ於テ現ハス現象ハ其特性ト該地ノ外圍條件トニヨリテ定マルベキモノナルヲ云ハントス。

又或一ノ外圍條件例ヘバ溫度ニ就テハ、或ル植物ヲシテ良好ナル發育ヲナサシムルニハ一定限度ヲ要スベク、若シ此限度ニ過不足スレバ該植物ヲ發育セシメ得ザルベシ、故ニ若シ吾人ニシテ一植物ノ生長ニ必要ナル外圍狀件限度ト外國ニ於ケル氣候狀件トヲ實驗的ニ精確ニ了知スルヲ得バ、一植物ヲ外國ニ移セル場合ニ同植物ノ現ハス現象ヲ豫知スルヲ得ベシ、而レドモ此事タル寒地植物ヲ熱帶地ニ移ス場合ニハ比較的容易ニ其結果ヲ認メ得ベキモ、溫熱兩帶間ニ於テハ容易ノ業ニアラザルベシ。

又所謂一年生植物ナルモノハ必ズシモ一年生植物ニアラズ、著者ハたばこヲ溫室內ニ培養シテ三年間續イテ生長セシメ得タリ、然レドモ植物ニハ各固有ノ體制上ノ特性アレバ其肥大生長ニ一定限アルベク、從テ早晩內部細胞ノ枯死腐敗ヲ招キテ倒ルベシ、サレド若シ若キ枝ヲ挿木法ニヨリテ養ヘバ更ニ一定期間新植物トシテ生長ヲ續ク、茲ニ於テ著者ハ思ヘラク多年性植物ノ生長ニ必要ナル條件ヲ實驗的ニ測知スルヲ得バ、該當植物ヲ何等ノ休眠狀態ニ入ラシメズシテ生長ヲ持續セシメ得ベシト、著者ガ先ニ溫帶落葉植物ヲ溫室中ニ養ヒテ冬期モ尙生長セシメ得タルハ既ニ之ヲ意味ス。

以上述ベ來レル事ニヨリテシンペル及ビフォルケンス氏ガ一般ニ熱帶植物ハ遺傳的ニ定マレル週期現象ヲ現ハスモノナリト云ヘルノ穩當ナラザルヲ知ルベシ、植物本來ノ性質ニヨル現象ハ生理學上ノ研究ニヨリテ決定スベキモノニシテ、其本來ノ特性ニヨリテ起レル本來ノ週期現象ナルモノガ實際ニ有ルヤ否ヤハ今後ノ研究ニ俟タザ

ニヨリテ休眠狀態ニ入ルヲ得、

此組ニ屬スルハ四科五種ニシテ、何レモボイテンゾルグニ於テハ明カニ週期現象ヲ現ハス、內一種ガジヤバ產ナル外他ノ四種ノ原產地ハ何レモ熱帶地方ナリ、サレバ其原產地ノ週期的氣候ニ適應シテ現ハセル週期現象ガ、熱帶地ニ移植サレタル後マデモ其後作用ヲ逞フスルモノナルヤ知ルベカラズ、且此組ノ植物ノ現ハス休眠期ハボイテンゾルクニ於ケルトハイデルベルヒニ於ケルトハ互ニ異ナル時期ニ現ハル、ヲ見レバ、此週期的現象ハ該植物固有ノ性質ニアラズシテ外界ノ影響ニヨルモノナルベシ。

然ラバ第一組ト第二組トノ植物ノ生長ノ有樣ガ斯ク異ナレル所以ハ如何、コハ各植物ニハ其體制上ニ本來ヨリ定マレル特性アルニヨルモノニシテ、一植物ガ良好ナル發育ヲナス爲メニハ其自身ノ特性ト外界ノ事情トノ關係ガ一定ノ適度ニアラザルベカラズ、乃チ或植物ノ生長ヲ持續セシメンニハ夫々一定限度ノ溫度日光養料等ヲ與ヘザルベカラズ、從テ同一ノ外界ノ情況ノ元ニ養ハレタル植物中、該當植物ノ特性如何ニヨリテ或ハ生長スベク或ハ長生ヲ休止スベシ、是レ第一組及ビ第二組ノ區別ヲ生ズル所以ナリ。

(三)葉ノ生長ハ時々發作的ニ行ハレ其各發作ノ後ニハ休眠狀態ニ入ルヲ得、

フォルケンス氏ハ各一時的生長ヲ終レル後ニハ必然的ニ休眠期ニ入ラザルベカラズト云ヘリ、實ニ斯カル生長ノ有樣ハ一見其植物ノ特性ナルガ如シ、然レドモ此ノ性質モ亦或ハ外界ノ影響ニヨリテ多少變化セシメ得ザルヤ疑ナキ能ハズ、此組ニ屬スルハ三科四種ニシテ、其生長ノ模樣又互ニ多少ノ差異アリ、*Petraea volubilis* ハ各生長期中ニ生ズル葉ハ何レモ同形ヲ有スルニ、*Theobroma cacao*, 及ビ *Stevchia macrophylla* ニアリテハ一生長期中、初メニ生ゼル葉ハ小サク次テ漸次大形ノ葉ヲ生ジ再ビ漸次小形ノ葉ヲ生ズルニ至リテ休眠期ニ入ル、而ルニ *Libsea latifolia* ニアリテハ初メ先ヅ低出葉ヲ生ジ次デ尋常葉ヲ生ズ、斯クノ如ク四種ガ三樣ノ生長法ヲ表ハスハ各其特性ノ異ナレルニ倚ラズンバアラズ。

サテ此組ノ植物ハ何故ニ斯カル發作的生長法ヲ取ルカ、是レ生長シツヽアル葉ガ芽ノ生長點ノ伸長ヲ防止スルニヨルモノニシテ、爲メニ生長點ヘノ養分供給ノ不足ヲ來スニ歸スベキモノナルベシ、故ニ今其植物ヲ養分多キ地ニ植ヘ變フルカ、若シクハ生長シツヽアル葉ヲ取リ去レバ斯カル生長法ハ自カラ消失ス。

熱帶植物ヲシテ其休眠期ニ入ラシムル動機ハ必ズシモ生長シツヽアル葉ガ養分不足ニ至ラシムルノミニ倚ラザルベシ、一植物ノ休眠ハ同植物體制上ノ特性ト密接ナル關係アルヲ、又外界ニ於ケル種多ノ條件ガ之レニ關係アルベシ、ボイテンゾルグニ於ケル老樹ハ月餘ノ休眠期ヲ現

新著　○クレブス氏「熱帶植物ノ週期現象ニ就テ」

出シ之ヲ採用セリ、其ノ方法ハエ、ムリカータ、エ、クルシアータ、エ、ミラーシーノ三種ノ何レカトエノテラノ他ノ偶然變種トノ間ニ出來タル雜種性ノ幼植物ハ其色黃色ヲ帶ビ其ノ生育ヲ完フスル事能ハザレドモ唯エ、ギガスト是等三種ノエノテラノ何レカトノ間ニ出來タル雜種植物ハ綠色ヲ呈スルヲ以テ此ノ事實ヲ應用シタルモノナリ卽チエ、ラマルキアーナノ卵細胞中ニエ、ギガス型ニ偶然變化ヲ起コシ居ルモノ存スル場合ニハエ、ラマルキアーナヲ右三種ノ何レカノ花粉ヲ以テ受胎セシメテ得タル種子ヲ發芽セシメタル際ニ黃色ヲ帶ビタル實生ニ混ジテ綠色ノモノ生ズベク而シテ又此ノ如キモノヽ染色體數ヲ檢セバ必ズヤ其ノ染色體數ハ二十一ナルベキ筈ナリ、氏ハ實際ニ於テ此ノ法ヲ行ヒ此ノ如キモノヽ染色體數ヲ檢シタル確實ニ染色體數二十一本ナル事ヲ發見シクリト云フ、有ノ方法ニヨリエ、ラマルキアーナノ卵細胞ノエ、ギガス型ニ變化スル度合ヲ定ムルニ約千ニ三個ノ割合ナリト云フ、此所ヲ以テセミギガスノ現出ノ度合ハ千分ノ六ナルベキノ理ニシテコレヨリ推シテ考フル時ハエ、ギガス現出ノ割合ハ約百萬分ノ九$\left(\frac{3}{1000}\times\frac{3}{1000}\right)$トナル譯ナリ、

(M. Tahara.)

○クレブス氏『熱帶植物ノ週期現象ニ就テ』

Klebs, G.:— Ueber die periodischen Erscheinungen tropischer Pflanzen. (Biolo. Centralbl. Bd. XXXII, No. 5, pp. 257–85, 1912)

春夏秋冬ノ別ナキ熱帶地ノ植物モ週期的休眠期ヲ現ハスハ幾多ノ學者ニヨリテ證明セラレタル事實ナリ、最近ニ於テフィルケンス氏ハ該現象ハ外界ノ影響ヲ蒙ラズ全ク植物固有ノ遺傳的內因ニ起因スル者ナルヲ說ケリ、玆ニ於テ本著者ハ同氏ノ說ニ對スル批評的研究ヲ企テ、一九一〇年十一月ヨリ翌年二月マデノ間ボイランゾルグニ滯在シテ親シク熱帶植物ヲ觀察シ、其後同地ヨリ持チ歸レル幼植物又ハ種子ヲハイデルベルヒノ溫室中ニ培養シテ同觀察ヲ續ケタリ、此際溫室中ノ溫度及ビ濕度ヲ出來得ル限リ熱帶地方最好ノ狀態ニ近カラシメント勤メタルハ言フマデモナシ、觀察セル植物ノ生長萌芽ノ現象ハ植物ノ種類ニヨリ差異アレド大別シテ著者ハ次ノ三組ヲ得タリ。

(一)一年ヲ通ジテ絕ヘズ生長スルモノ、

研究セル植物中此組ニ屬スルモノハ五科八種ニシテ、其中ニハ草木アリ半灌木アリ灌木アリ喬木アリ以テ各種ノ植物ヲ代表ス、故ニシンペル及ビフィルケンス氏ガ一般ニ熱帶植物ハ週期的ニ發育及ビ休眠時期ヲ現ハストト云ヘルハ正當ナラズ、少クトモソハ普徧的事實ニハアラザルベシ。

(二)葉ノ生長ハ絕ヘズ平等ニ行ハル、然レドモ或ル事情

十一日發行ノ獨逸植物學會報告ニ掲載セリ、ルッツ女史ノ論文ハ去ル七月二十日ノ發行ニシテ本論文ノ獨逸植物學會ニ到達シタルハ七月二十五日ナルヲ以テ想フニストムプス氏ハ本論文起草ニ際シ勿論ルッツ女史ノ論文ヲ參考スル事能ハザリシモノナルベクストムプス氏ノ論文中ニハ何等ルッツ女史ノ論文ニ言及セルモノナシ、何等カノ事情其ノ間ニ存スル事ヤモ知レザレドモ兎モ角此ノ重要ナル二報告ガ始ド時ヲ同ウシテ出デタルハ面白キ事實ト稱スル事ヲ事ヲ得ベシ、此ノ二報告ハ曾ニ植物細胞學上趣味深キ論文タルニ止マラズ、新種造成ノ方法ニ關シ重要ナル一大論據ヲ構成スベキモノニシテ一般植物學者ノ特ニ注目スベキモノナラント信ゼラル、

前號ノ抄錄ニ於テ既ニ述ベタルガ如クド、フリース氏ノ考ニテハ偶然變化ナルモノハ受精ヲ終リタル卵子ニ於テ始メテ起コルモノニアラズシテソレヨリ以前既ニ生殖細胞ノ時代ニ於テ其ノ起原ヲ發スルモノナルベシト云フ、然ラバ母植物ニ比シ倍ノ染色體數ヲ有スルエノテラ、ギガスノ如キモ先ヅ最初ニ倍ノ染色體數ヲ示ス所ノ花粉幷ニ卵細胞ヲ生ジ此ノ兩者ノ合著ニヨリテ後始メテ成立シタルモノタルベキノ理ナリ、而シテ此ノ如キハ實ニ千載ノ一遇ニ於テ生ズベキノ理ニシテ又實際ニ於テエ、ギガスノ現出ハ他ノ偶然變種ニ比シ非常ニ稀ナルモノナリト云フ、然レドモエ、ギカス型ニ偶然變化ヲ起コシタル生殖細胞ト何等ノ偶然變化ヲ起コサヾル生殖細胞トノ合著ハ決シテシカク稀ナルモノニアラザルベク若シ其ノ現出ヲ見ルニ於テハエ、ギガストエ、ラマルキアーナノ雜種ノ如キモノ表ハル、モノナルベクコハ何人ノ想像ニモ上ル所ノ事ナルガド、フリースノ報ズル所ニヨレバエ、ラマルキアーナノ自家受粉ニヨリテ出來タル種子ヨリ生育セル植物中ニハ事實斯ノ如キモノヲ發見スル事決シテ稀有ノ事ニアラズト云フ

著者ストムプス氏ハ此ノ點ニ注目スル所アリ昨夏前述ノ如キ二個體ヲ檢出シ其ノ若キ花芽ノ細胞ニ於ケル染色體數ヲ精檢セルニ其ノ染色體數ハ確實ニ二十一本卽チエ、ラマルキアーナノ原數七ノ三倍ナル事ヲ證シ得タリト云フ、氏ハ尙ホ進ミテ本年九株ノ同樣ナル個體ニ於テ同一ノ研究ヲ行ヒタルニ總テ其ノ體部細胞ニ於テハ二十一本ノ染色體ノ現出ヲ檢シ得タリト云フ、著者ハ此所ニ於テ是等ノ個體ニ向ヒ *O. Lamarckiana semigigas* ナル學名ヲ提出セリ、

次ニ來ル所ノ問題ハ然ラバ此ノ如キ二十一本ノ染色體ヲ體部細胞ニ於テ示スベキ偶然變種ガ如何ナル程度マデ屢現出スベキモノナルカト言フ事ナリ、之ヲ定ムルニハ勿論自花授粉ニヨリテ出來タルエ、ラマルキアーナノ多數ノ子孫中ヨリ此ノ如キ個體ヲ勘定スレバ良キ譯ナレドモストムプス氏ハ此ノ目的ニ向ヒ特別ナル便利ノ一方ヲ案

新著　○ストムプス氏『エノテラ、ギガス生成ノ經路ニ就テ』

ハ他ノ原因ニ歸スベシ。土壤的原因トハ湖水ニ注入スル河川ノ地盤ガ岩石ノ性質ガ異ルガタメニ起ルモノニシテモシ地盤ノ同ジ二湖水ガ異レル「プランクトン」ヲ有スルアレバ是ハ水ノ清不潔ニ歸スベシ。

湖水モシ稍不純物分ヲ交フル時ハつゞみも類乏シク之ニ反シ硅藻繁殖ス。殊ニ

Asterionella gracillima, Tabellaria, fenestrata var. asterionelloides. Melosira granulata 等ノ如キ極大成長ヲ現出ス。此時期ハ水中ニ硝酸鹽類ノ多量ナル時ト一致スベシト云フ。

湖水モシ極メテ純ナレバ硅藻ニ同ジクつゞみも數多量ナリ。硅藻及つゞみもヲ混有スル湖ハ水質以上兩者ノ中間ニアリ。藍類ヲ有スル湖ハ清純ノ水ニアラザルコト明ナルモ亦硅藻ヲ有スル湖トハ異ルモノアリ。然ラバ亞非利加ノ湖水中

Asterionella 及 *Tabellaria* ノ存セザルハ水清純ナルガタメナリヤト云フニ此等ハ寧ロ高溫ニ歸スベキモノナラント云フ。

つゞみも類ガ前寒武利亞紀及舊古世代ノ岩層ヲ有セル湖中ニ多キノ事實ハ是此等岩石ガ固ク溶解分ヲ有スルコト少ク且つゞみもノ發育ニ有害ナリトセラルヽ石灰ヲ含有セザルタメナリト考ヘラル。之ニ反シ石炭期以後新時代ノ地層上ニアル湖水ハ溶解分多ク從テ硅藻ヲ富マシムルモつゞみも類ニ害アリト云フ。此等ノ論旨ニハ間々異例ヲ見ルベシ。何トナレバつゞみも繁殖ニ適スル湖水モ排水等ニヨリ汚サレ硅藻ヲ富マスコトアレバナリ。此結論ハ湖水ノ化學分析ヲ要スコトヽナル。其結果果シテ如何吾人ハ後日ノ研究ヲ鶴首シテ待タントス。

終ニ著者等ハ新種ノ記載－移レリ。今其種名ノミヲ揭ゲン

Rugo cymbirica, Hormo limnetica, Spondylosira planum, Anisirrodesmus Torilli, Tetraspora limnetica, Aphanocapsa delicatissima, Actachista var. conferta, Aplanochece nitulans var. endophytica.

(H. NAKANO)

○ストムプス氏『エノテラ、ギガス生成ノ經路ニ就テ

Stomps, Theo J. :—Die Entstehung von *Oenothera gigas* de VRIES. (Ber. d. deutsch. bot. Gesell. 1912. Bd. XXX, Heft 7.)

余ハ前號ニ於テルッツ女史ノ趣味アル一論文　Triploid Mutant of *Oenothera* ヲ「エノテラノ偶然變化ト染色體數」ト題シ之ガ簡單ナル抄錄ヲ試ミタルガ今回和蘭ノ植物細胞學者ストムプス氏ハコレト全然無關係ニシテ而モ殆ド全ク同一ノ結果ニ達シタル自己ノ研究報告ヲ去ル八月三

リ)。此間綠藻極大量ニ達ス中 *Staurastrum gracilierum* ハ最盛ニシテ六月ヨリ十二月迄毫モ衰ヘズ。多月ニモ稀ナラズト云フ。

六月ニハ一般硅藻ノ極大發生ヲ示ス。硅藻中 *Rhizosolenia morsa* 最著シ此者ハ九月ニ急ニ發生シ十二月ニ極大ニ達シ更ニ漸次衰退シ三月ニ消失シ更ニ五月ニ雨小量ニ發生ス

カトリン湖ハバースシャイアー州ノ西南隅ニ位シスコットノ傑作ヲ以テ名高シ。長徑八哩幅四分三哩。海拔三六四呎ノ上ニアリ。最深四九五呎東岸ニハ二三九三呎ノ高峰聳ユルアリ。採集ハ一九〇八年ノ八月ヨリ翌年七月ニ至ル一年間其東端ニ於テ月毎ニ施行セリ。水溫觀測ノ結果次ノ如シ。

八月	九月	十月	十一月	十二月	一月	二月	三月	四月	五月	六月	七月
五五	五三	四三	三七	三〇	二七	二六	二四	二四	二九	三七	四二

「プランクトン」ノ發生狀態ハ三期ニ分ツヲ得ベシ、

一、十二月ヨリ三月ニ至ル。(水溫徐々ニ遞下)

此期ニハ綠藻極小ニシテ、*Coelosphærium* ハ急ニ衰退シテ三月ニ及ブ。二月後ニハ *Desmids* 及 *Peridinium Willei* 發生ス。*Rhizosolenia morsa* ハ十二月ヨリ二月迄第一極大成長ヲ現ス。

二、四月ヨリ六月ニ至ル。(此間水溫徐々ニ上昇ス)

Desmid 及 *Peridinium Willei* 增加著シク六七月ノ候ニハ極大ニ達ス。*Rhizosolenia morsa* ハ再六月ニ現レ七月ニ第二極大量ヲ示セリ。*Coelosphærium* ハ急激ニ增加ス。

三、八月ヨリ十一月ニ至ル。(秋期水溫ノ減少アリ)

藍藻 (*Coelosphærium* 八九月ノ候極大量ニ達シ漸次ニ衰フ。*Peridinium Willei* ハ九月頃消失ス。或つゞみも類ハ九月ヨリ十一月ニ微少ノ極大成長ヲナス。

本湖中ノ藻類ハ總計六三種ニシテ內譯左ノ如シ。

綠藻三五、硅藻一六、褐藻一、藍藻八、鞭毛藻一、蟲藻二種トス。

終ニ著者ハ本研究ヲ試ミシ七湖及其他英國內ノ十二湖ノ觀察ヨリ結論ヲ下セリ。

湖水ノ最冷ナルハ二月ヨリ四月ニ至リ最高溫ハ七月八月ノ候ニアリト云フ。而シテ植物「プランクトン」ノ最大量ハ夏ノ終及秋期ニ於テ水溫減少ノ候ニ一致スト云フ。各湖ノ「プランクトン」ハ皆殊相アリ。此等ヲ比較スルハ極メテ難事ナリト雖今 Ennerdale, Wastwater, Windermere ノ三湖ニ就テ見ルニ第一者ハ九一第二者ハ五〇第三者ハ六五種ヲ有シ然モ共通種ハ一五種ニシテ各湖ノ優占種ハ全ク異レルモノナリキ。

斯ノ如キ植物「プランクトン」ノ差ハ如何ナル原因ニ歸スベキヤト云フニ一部ハ土壤原因一部ハ地方的差別又一部

新著 ○タブリウー、ウエスト、及ジー、エス、ウエスト兩氏合著「二三英國湖水ニ於ケル植物「プランクト

ルアリ又スクールフイールドノ動物「プランクトン」ヲ研究セルアリ。而シテ本著者ノ一人タルジー、エス、ウエストハ淡水藻類ノ專門家ニシテ既ニ有益ナル著書ヲ以テ名ヲ知ラレ且兩氏等ハ既ニ數種ノ湖沼ニ就テ論文ヲ發表セシコトアリ。此外英國淡水圈ノ植物「プランクトン」ニ就テハフリツツノテームス河ニ於ケルバツハマンノ子ツス湖ニ於ケル研究ヲ發表セルモノアリシガ共ニ尙完璧ヲ望ミ難カリキ。此ニ本著者等ノ論文ヲ見ルハ幾多ノ光明ヲ英國湖沼ノ植物「プランクトン」ニ投ズベキモノニシテ後日研究家ノ一大文獻タルベキ實ニ明白ナリ。然レドモ譯者等ノ望ハ未タ達セザルモノアリ。何トナレバ該著者等ノ研究ハ表面採集ニノミ限レルモノニシテ未タ垂直分布等ニ及バズ。而シテ又現今ノ發達シタル定量研究ヲ施行セシ所ナキヲ以テナリ。然レドモ短日月ニ數個ノ湖沼ヲ研究スルノ事業ニ此等ヲ望ムハ寧ロ望者ノ罪ニシテ宜シク後日ノ研究ヲ俟ツニ若カザルナリ。

著者等ノ研究ハ英蘭土（イングランド）ノ湖沼地方卽ウエストムアーラント及カムバーラレド州ニ散在スル Ennerdale Water, Wastwter Windermere（スコットランド）ノ諸湖及蘇蘭土ノダンバートンシヤイアー及バースシヤイアー州ニ散在セル Loch Lomond, Loch Katrine, Loch Lubnaig, Loch Earn 等ノ七湖ニ就テ施サレタルモノナリ。

今次ニ本著者ノ研究方針ヲ簡單ニ紹介シ次ニ英國湖沼ニ於ケル植物「プランクトン」ノ殊徵ヲ述ベン。著者等ノ研究法ハ每月一回稀ニ四ケ月每ニ一回絹網ニテ表面採集ヲ行ヒ之ト同時ニ表面ノ水溫ヲ測定シ以テ年中ノ變化ヲ驗ヒルナリ。今例ヲウェスト、ウオーター湖トスコットノ詩編ヲ以テ名高キカトリン（フイート）湖ニ取リ以テ研究方針ノ概要ヲ示サン。

ウエストウオーターハ英蘭土湖水中最深ノモノニシテカムバノランド州ノ西南ニアリ平均深度百三十五呎最大二五八呎アリ、長徑三哩幅ハ約半哩海面上二〇四呎上ニアリスカフェル峯（高度三二六二呎）及スカフェル高峯（三二一〇呎）ノ西側及其他ノ峯山ヨリ水ヲ受ク水ハ豐富ニシテ清純ナリ。每月一回ヅヽノ一年間ノ觀測（千九〇八年—一九〇九年）ニヨレバ溫度ハ攝氏四、四（四月）ヨリ一七、二度（八月）ヲ上下セリ。

一年ヲ通ジ主要ナル「プランクトン」ハ *Chlorophyceæ*（著者等ノ分類ハ此中ニ *Isocontæ* 及 *Conjugatæ* ヲ編入セシム。）ニシテ本湖ノ全種類五十種中二五種ヲ占メタリ。其他硅藻二十種藍藻一、藍藻二、鞭毛藻一、蟲藻一種ヲ發見セリ。期節ニヨル「プランクトン」ノ狀態ハ次ノ二ニ分ル。

一、一月ヨリ五月ニ至ル寒期、（此間春期水溫ノ上昇アリ）綠藻少ク硅藻稍多量

二、六月ヨリ十二月ニ至ル暖期（此間秋期水溫ノ減少ア

avena, *Festuca ovina*, *Arundinaria nitakayamensis*, *Lycopodium obscurum*, *Bobrytium ternatum*, *Cryptogramme Brunoniana*, 等アリ

臺灣植物區系ノ性質、本章ニ於テハ葉者ハ現今知ラレタル總テノ顯花植物幷ニ高等隱花植物ノ合計七六四屬、二四一七種ニ就キ次ノ如ク九ケノ要素ニ分チ各區系地方ト比較シ之ヲ研究セリ、(一)特有分子、ハ割合ニ多ク四一三種即チ十七割アリテ特有屬ニハ *Taiwania*, *Tiarandrichium* ノ二屬アリ、之等ノ內主要ナルモノハ *Oreopanax formosana*, *Leontopodium microphyllum*, *Tiarandrichium Oldhami*, *Pedicularis formosana*, *Chamaecyparis formosensis*, *Cunninghamia Konishii*, *Taiwania cryptomerioides*, *Pinus formosana*, ノ數種ナリ。(二)日本要素、モ主要ナルモノニシテ八一二種三十四割アリ著シキハ *Pseudotsuga japonica*, *Chamaecyparis obtusa*, *Tweloledendron vadioides*. ナリ。(三)北支那要素ハ二二〇種九割ナリ。(四)中央支那要素、ハ六八六種二十八割ナリ。(五)南支那要素ハ八二八種三十四割ナリ。(六)ヒマラヤ要素ハ一六四種七割ナリ。七印度半地要素ハ六二一種二十五割ナリ。(八)馬來要素ハ六三六種二十六割ナリ。(九)濠洲要素ハ一一六種五割ナリ。之ヲ以テ見レバ日本及ビ南支那要素最モ多キヲ知ル可シ、臺灣植物中最モ多クノ種數ヲ含ムハ次ノ八科ニシテ菫科(四十六屬一五六種)菊科(四二屬、一二五種)、大戟科(二十一屬七十二種)、尋麻科(廿三屬八十種)蘭科(三十五屬、九十四種)、莎草科(十六屬、九十種)禾本科(三十七屬百七十五種)水龍骨科(四十五屬二三〇種)之ナリ、又最モ多クノ種數ヲ有スル各屬ニハ *Vitis* (16), *Crotalaria* (15), *Desmodium* (22), *Rubus* (18), *Mimosa* (10), *Ipomoea* (24), *Solanum* (12), *Viburnum* (10), *Polygonum* (30), *Ficus* (24), *Quercus* (20), *Cyperus* (12), *Carex* (29), *Scirpus* (18), *Fimbristylis* (15), *Lathyrogyne* (10), *Eriyrosiis* (11), *Panicum* (20), *Polypodium* (40), *Aspidium* (10), *Asplenium* (23), *Davallia* 11), *Diplazium* (13), *Nephrodium* (30), *Pteris* (16), *Vichomanes* (16) ノ廿六屬アリ。

(G. Koidzumi)

○タブリウー、ウエスト、及ジー、エス、ウエスト兩氏合著『二三英國湖水ニ於ケル植物「プランクトン」ノ週期ニ就テ』

W. West and **G. S. West**:—On the periodicity of the phytoplancton of some British Lapes (The journal of the Linnean Society vol XL No. 277 May, 1912)

英國ノ湖沼研究ハ極メテ最近ノ事ニ屬シタリシガ、今ヤ事業着々トシテ歩ヲ進メツツアルハ吾人ノ喜ニタヘザル所ナリ。先ニハムーレーノカトリン湖群ノ深度ヲ測定ス

新著　○タブリウー、ウエスト、及ジー、エス、ウエスト兩氏合著『二三英國湖水ニ於ケル植物「プランクトン」ノ週期ニ就テ』

vaccinatum; *Peperomia*, *Belanophora*, *Mercurialis*, *Lecanthus*, *Elatostema*, *Pellionia*, *Urtica*, *Elatostema*, *Aloesia*, *Boehmeria*, *Stylis*, *Pouzolzia*, *Arundinella*, *Miscanthus*. アリ蘭科植物ニハ *Bletia*, *Calanthe*, *Chrysoglossum*, *Bulbophyllum*, *Cleisostoma*, *Cymbidium*, *Phalaenopsis*, *Aphrodite*, *Collabium*, *Dendrobium*, *Appendicularia*, *Didymoplexis*, *Goodyera*, *Habenaria*, *Platanthera*, *Liparis*, *Oberonia*, *Saccolabium*, *Sarcochilus*. 等ノ諸屬アリ、

針葉樹帶、此帶ハ七千尺以上ニ始リ一萬尺ニ終レリ、七千—八千尺間ニハ主ニ *Chamaecyparis pisifera*, *C. formosana*. ノ森林ニシテ直徑十尺ニ達スルモノアリ之等ト混交スルモノニハ *Taiwania cryptomerioides*, *Cunninghamia Konishii*. アリ八千尺以上トナレバ *Tsuga formosana*. 多クノ之ト混交スルモノハ *Abies Mariesi*; *Picea morrisicola*; *Pseudotsuga japonica*, ノ諸林木ナリ、尙此帶ニ生ル樹木ニハ *Cephalotaxus*, *Taxus*, *Libocedrus macrolepis*; *Pinus Armandii*; *P. formosana*; *P. taiwanensis*; *Keteleeria Davidiana*, アリ、此森林ノ下草ニハ *Pieris*, *Rhododendron*, *Bathua* 等僅少ナレドモ羊齒類ハ著シク繁茂ス其內最モ多キハ *Plagiogyria glauca var. philippinensis*. ニシテ其他ニハ *Acrophorus stipellatus*; *Microlepia*, *Monachosorum*, *Asplenium laciniatum*; *Aspidium*, アリ樹上着生羊齒ニハ *Davallia parvipinnula*, *Asplenium Trichomanes*, *Niphobolus fissus*, *N. linearifolius*, *Polypodium linearc*, *P. excultum*, *P. virioides*. 等多シ、

灌木帶、一萬尺以上ニ始リ一萬二千尺ニ達ス *Juniperus formosana*, *J. morrisonicola*. 多クノ之ニ *Berberis*, *Prinsepia*, *Ilex*, *Salix*. ノ類ヲ混ジ草本ニハ *Clematis lasiandra*, *var*, *Nagasawai*; *Cucubalus baccifer*, *L*; *Geranium uniflorum*, *Hax*; *Mitella japonica*, *Mig*; *Circaea alpina* L; *Ainsliœa* sp; *Picris hieracioides*, *L*; *Disporum* sp; *Juncus effusus*, *L*; *Peperomia*, *Fatoua pilosa*; *Smilacina japonica*, *Tricyrtis* ノ如キモノアリ。

草本帶ハ一萬二千尺以上ニ始リ一萬三千百二十尺ニテ終レリ、此帶ニ生ズル主ナルモノハ *Arabis alpina*, *A. abraxaefolia*, *Cerastium morrisonense*, *C. pilosum*, *Stellaria stellatopilosa*, *Rubus elegans*, *Fragaria Hayatae*, *Potentilla gelida*, *P. leuconota*, *Sibbaldia procumbens*, *Rosa* sp, *Nertera nigricarpa*, *Oreomyrrhis involucrata*, *Scabiosa laevifolia*, *Erigeron morrisonicola*, *Deschampsia caespitosa*, *D. flexuosa*, *Trisetum subspicatum*, *Brachypodium sylvaticum*, *Leontopodium microphyllum*, *Anaphalis* sp, *Gnaphalium lineare*, *Artemisia oligocarpa*, *Gaultheria borneensis*, *Pyrola rotundifolia*, *Shortia rotundifolia*, *Gentiana caespitosa*, *Origanum*, *vulgare*, *Metaeatheeium foliatum*, *Luzula effusa*, *Carex*, *Isachne Clarkei*, *Agrostis Clarkei*, *Calamagrostis arundinacea*,

反シテ無花果屬ハ次第ニ消失ス、此帶ニ最普通ナル林木ハ *Lindera, Litsea, Tetradenia, Octea, Mochilus, Quercus, Castanopsis, Castanea* ノ諸屬ニシテ二千尺以上トナレバ樟樫ノ美林多ク此中ニ上昇木本及ビ羊齒蘭科等ノ樹上著生植物ノ群落多シ、六千尺以上トトレバ往々直徑十五尺ヲ有スル *Trochodendron aralioides*, ノ廣大ナル純林多ク蓊鬱特有ノ一林相ヲ形成ス、尙此帶ニ普通ナル木本植物ニハ *Ternstræmia japonica*, THG; *Eurya japonica*, THG; *Illicium sp*; *Schima Noronhae*, REINW; *Acer sp*; *Oreopanax formosana*, HAY; *Eugenia chinensis*, RGL; *Pistacia formosana*, MATSUM; *Fatsea polycarpa*, HAY; *Heptapleurum octophyllum*, B. et H.; *H. racemosum*, BEDD; *Ardisia sp*; *Myrsine sp*; *Helicia formosana*, HEMSL; *Meliosma sp*; *Engelhardtia sp*; *Alnus maritima*; *var. formosana*, BURKILL; *Quercus amygdalifolia*, SKAN; *Q. dentata*, THG; *Q. formosana*, SKAN *Q. glauca*, THG; *Q. Kawakamii*, HAY; *Q. Konisii*, HAY *Q. serrata*, THG; *Q. yunghuhnii*, MIG: *Q. variaibilis*, BL; *Castanopsis indica*, DC; *C. taiwaniana*, HAY; *Fagus Hayatae*, PALIB; *Juglans sp*, *Platycarya sp*. 等アリ、此帶ノ山脊ノ頂上ニハ樹木矮小ニシテ禾本類甚密生セリ、之ノ等林地ノ下草ニハ *Alocasia macrorhiza*; *Colocasia*; *Epipremnum*; *Musa*; *Calamus Margritae* 殊ニ著シ此帶中ノ主ナル灌木ニハ *Stachyurus praecox*, S. et Z; *Thea brevistyla*, HAY; *Skimmia japonica*, THG; *Euonymus Spragueï*, HAY; *Rubus pectinellus*, MX; *Aucuba japonica*, THG; *Damnacanthus indicus*, GAERTN; *Vaccinium emarginatum*, HAY; *V. Merrillianum*, HAY; *Gaultheria Cumingiana*, VIDAL; *Pieris ovalifolia*, D. DON; *Rhododendron, Symplecos*; *Elæagnus* ノ類アリ、上昇植物ニハ *Rhus toxicodendron*, L; *Hydrangea glabra* HAY; *H. integra*, HAY; *H. longifolia*, HAY, *Bauhinia*; *Entada*; *Calamus* アリ、草本類ニハ *Anemone vitifolia*; *Clematis*; *Cardamine*, *Viola*, *Polygala*, *Dianthus*, *Silene*, *Geranium*; *Oxalis Griffithii*; *Impatiens uniflora* HAY; *Astilbe*, *Chrysosplenium*, *Parnassia palustris*; *Cardiandra formosana*; *Ribes formosana*; *Haloragis*, *Osbeckia*, *Barthea formosana*; *Sarcopyramis*, *Thladiandra*, *Gynostemma*; *Sanicula*, *Acanthopanax*, *Knoxia*, *Patrinia Hœckia Aschersoniana*, *Carpesium*, *Chrysanthemum*, *Artemisia*, *Petasites*, *Gynura*, *Senecio*, *saussurea*, *Ainslicea*, *Lobelia*, *Wahlenbergia Codonopsis*, *Campanumœa*, *Peracarpa*, *Adenophora*, *Primula*, *Lysimachia*, *Hemiphragma heterophyllum*; *Gentiana*, *Swertia*, *Edisiophyllum pinnatum*; *Scrophularia*, *Torenia*, *Veronica*, *Sopubia*, *Euphrasia*, *Orobanche*, *Lysionotus pauciflorus*; *Rhynchoglossum obliquum*; *Chirita*; *Conandron ramondioides*; *Scutellaria*, *Polygonum chinense*; *P. cuspidatum*, *P.*

新著 ○早田氏「臺灣ノ植物探究并ニ植物學親及ト植物區系」

ル樹木ノ類ニハ *Ficus Beecheyana*; *F. formosana*; *F. nervosa*; *F. Wightiana*; *Melia Azedarach* 及ビ樟科ノ *Cinnamomum pedunculatum*; *Machilus formosana*; *M. Thunbergii*; *Actinodaphne pedicellata*; *Litsea lancifolia* 多ク針葉樹ニハ唯一ノ *Pinus Massoniana* アリ平原濕潤ノ地ニハ *Eriocaulon*, *Pycreus*, *Juncellus*, *Cyperus*, *Mariscus*, *Eleocharis* 及ビ其他莎草科禾本科ノ植物繁茂シ溜水中ニハ又 *Najas*, *Potamogeton*, *Trapa natans*; アリ、山足ノ湖水ニハ又 *Brasenia purpurea* モアリ、竹林ハ亦平地ニ於テ著甚ナルモノニシテ殊ニ中部地方ヲ然リトス其種類ノ最普通ナルハ *Bambusa angulata*; *B. breviflora*; *B. Fauriei*; *B. Oldhami*; *B. stenostachys*; ニシテ *Dendrocalamus* ノ種類モアリ、山麓ニ近クニ從ヒ此ニ兩地方分子ノ混交ヲ見 *Aspleninm Nidus*; *Nephrolepis acuta*; *Diplazium esculentum* ノ如キ羊齒類幷ニ種々ノ禾本科及ビ *Epipremnum mirabile*; *Pothos Seemann*; *Bauhinia*; *Entada scandens*; *Anoectochilus*; *Ecdysanthera*; *Calamus* ノ如キ上昇木本アリ。

山地々方、臺灣山地植物帶ノ光景ハ地方ニヨリ大ニ其趣ヲ異ニシ著者ハ南部中部ノ一般ヲ觀察シタルノミナレドモ北部モ亦中部地方ト大差ナカルベシト云フ、其一般山地植物帶ノ變化ハ他地方ニ於ケルガ如ク下方ニハ常綠濶葉樹林上方ニハ針葉樹林アリテ尙高度ノ增加スルニ從ヒ灌木林トナリ遂ニ高山草本帶トナル

常綠濶葉樹帶ノ下方ニテハ *Clerodendron*; *Viburnum*; *Callicarpa* 及ビ *Alsophila*, *Cyathea*, *Cibotium* ノ如キ木生羊齒多ク之ニ種々ノ樫類及ビ樟科植物ヲ混ズ、溪間ノ河床ニハ禾本科多シ、尙此ニ普通ナル木本ハ *Ilexia polycarpa*, Max; *Elæocarpus decipiens*, Hemsl; *Evodia meliaefolia*, Benth; *Rhamnus arguta*, *var. Nakaharai*, Hay; *Prunus campanulata*, Max; *Buxus sempervirens*, L; *Callicarpa sp*; *Ficus sp*; *Alsophila*, *Cyathea* アリ、草本ノ主ナルモノハ *Thalictrum Eaviei*, Hay; *Boenninghausenia albiflora*, Reiche; *Eupatrium formosanum*, Hay; *Aster trinervius*, Roxb; *A. scaber*, Thg; *Pratia begonifolia*, Lindl, *Dischidia formosana*, Mx; *Cynoglossum micranthum*, Desf; *Trigonotis formosana*, Hay; *Solanum lysimachioides*, Wall; *Bowmaya veronicaefolia*, Spreng; *Titanotrichum Oldhami*, Solerd; *Strobilanthes flaccidifolius*, Nees; *Urtica Thunbergiana*, S. et Z; *Girardinia heterophylla*, Decne; *Pilea Wattersi*, Hance; *Procris laevigata*, Bl; *Polygonatum officinale*, All; *Aloeasia macrorhiza*, Schott; *Aneilema divergens*, C. B. Clarke; *Opliswenus undulatifolius*, Beauv; *Saccharum Narenga*, Wall; *Spodiopogon sp*; *Pollinia sp*. 等ナリ

常綠濶葉樹帶ノ上方ニハ樫類及ビ樟科植物漸ク多ク之ニ

ドモ山頂ニ至レバ高山植物ノ生育スルヲ見ル、雨量ハ全島ヨリ見ルモ世界最多雨ノ地ニシテ殊ニ島ノ北部ノ如キハ基隆ニ於テ年平均一五〇「インチ」ヲ示シ其量ブイテンブルグト同一ナリ、然シテ臺灣ノ雨ニ關シテハ氣候風ノ影響頗ル顯著ニシテ一年中五月ヨリ十一月ニ到ル間南西氣候風ノ吹ク時節ハ島ノ北部ハ天氣晴朗ナレドモ南部ハ六月ヨリ雨期ニ入ル、之ニ反シテ十二月ヨリ翌年四月マデハ北東氣候風強ク島ノ北部ハ連日細雨ヲ催シ南部ハ晴天ニシテ殊ニ九月ハ最好晴ナリ。溫度ハ一般ニ南部ハ北部ヨリ高シ例ヘバ恒春ニ於ケル年平均溫度ハ華氏ニテ示セバ七五度九ニシテ臺北ヨリハ五度高ク臺中ヨリ四度臺南ヨリ二度三ノ高度ヲ示セリ又年中ノ溫度ハ四十九度ヨリ降ラザルヲ以テ多期モ植物花咲キ又熱帶ノ植物モ自生ス然レドモ北部ハ二月ニハ三十一度ニ降下スルヲ以テ植物モ北方ノ分子ヲ混ゼリ。又海面上ヨリノ高度ノ變化ニヨレル氣象上ノ觀測ハ未ナケレドモ一九〇八年八月著者ハ蠻大山七千尺ノ地ニ於テ最モ熱キ日ニ六七度ヲ測リシニ低地ニ於テハ九六度ニ達セシヲ知リ又川上瀧彌氏ハ他ノ一萬尺ノ地ニテ四十三度ヲ測定シタルコトアリト云フ。

臺灣ニ於ケル植物帶ヲ略分スレバ大體三帶ヲ區別シ得即チ海岸地方、平原地方、山地々方之ナリ。海岸ハ砂濱又ハ岩壁ニシテ稀ニ泥海ヲナス、基隆及ビ打狗附近ノ泥海ニ紅樹林ノハ群落アリテ此中ニ生ルモノハ *Kandelia Rheedii*, Wight; *Bruguiera eylindrica*, Bl; *Rhizophora mucronata*, Lam; *Lumnitzera racemosa*, Willd; *Avicennia officinalis*, L アリ。海岸砂地群落ヲナスモノニハ *Hibiscus tiliaceus*, L; *Heritiera littoralis*, Ait; *Canavalia obtusifolia*, DC; *Dervis uliginosa*, Benth; *Tephrosia purpurea*, Pers; *Pongamia glabra*, Vent; *Sophora tomentosa*, L; *Caesalpinia Bonducella*, Bl; *Barringtonia racemosa*, Roxb; *Pemphis acidula*, Forst; *Tetragonia expansa*, Murr; *Sesuvium portulacastrum*, L; *Weldelia biflora*, DC; *Suaeda Kochii*, Vahl; *Tournefortia argentea*, L; *T. sarmentosa*, Lam; *Ipomoea biloba*, Forsk; I. *carnosa*, R. Br; *Myoporum bontioides*, A. Gray; *Clerodendron inerme*, Gaertn; *Euphorbia atoto*, Forst; *Evecaspia hyalinifolia* L; *Pandanus odoratissimus*, L; *Freycinetia formosana*, Hemsl; *Pycreus polystachyos* Beauv *Spinifex squarrosus*, L; *Dactyloctenium aegyptiacum* Willd; *Zoysia pungens*, Willd ノ諸種アリ此中殊ニ著シキハ *Ipomoea biloba*; *Pandanus odoratissimus* 及ビ打狗地方ノ蛹蜴礁上ノ *Euphorbia Tirucalli* ノ純群落ナリト云フ。

平原地方ニハ甘蔗稻茶等ノ耕野多ク其間 *Acacia Richii* ノ林多ク此樹木ハ臺灣ノ平地ニ適セルモノニシテ殊ニ北部ニテハ數哩ニ亘ル純林ヲ見ルコトアリ其他平地ニ生ズ

此處ニ於テカ該娘細胞核ハ皆二分シソノ上部ニ位セル半數ハ子囊形成部ニ入リ下部ニ位セル半數ハ更ニ各二分シソノ上端ニ就ケル半數ノ核ハ續キテ新ニ子囊形成ニアヅカリソノ下端ノ他半數ノ核ハ前轍ヲフミテ又二分シソノ半數ヲ子囊形成部ニ赴カシメ追テ如斯シテ數多ノ子囊ハ二群ヲナシツヽ漸次形成セラルヽモノナリ、

扨テ子囊ニ入リ二核ハ初メテ相融合シ「シナプシス」先ヅ起リ減數分裂之ニ從フ、ソノ染色體ハ原數四個ニシテ此ノ分裂ニ於テハ橫裂ヲナスニ似タリ、次デ同型分裂起リ更ニ一回ノ正型分裂之ニ次シ最後ニ八個ノ遊核ヲ得、但內四核卽各「スピンドル」ノ上極ニ赴クルモノハ壞滅スルモノナリ、是ヨリ以後子囊內ノ動靜ハ他ノ囊子菌ト大差ナク尤モ放射體ガ胞子トナルベキ部分ト周邊細胞質トヲ隔離セシムルガ如キコトハ斷ジテ之無シトス、

之ニヨリテ見ルニラブルベニヤニテハ生殖核ハハジメ互ニ對ヲナスノミニテ決シテ融合スルコトナク連續分裂シテ子囊內ニ至リハジメテ融合スルコトハ恰モ近時ノ研究ニ負ヘル囊子菌ノ特形ト正ニ一致スルヲ見ルナリ、ナホ胞子ハ長圓錐形ニシテハジメハ單胞ナレドモ後二分シテ二細胞トナル、體各部ノ細胞ハ單核ニシテ各細胞間連絡ハ非常ニ細キヲ以テ常トスト、

要スルニラブルベニヤノ所屬決定ニハナホ大ニ考研ニマツベキモノアルベケレド微少ニシテ且夥多ナラザル、切斷容易ナラザル本菌ノ細胞的研究ヲ行ヒタル著者ノ勞ヤ多トスベキモノナランカ（M. Ishikawa.）

○早田氏『臺灣ノ植物探究幷ニ植物景觀及ビ植物區系』

Hayata, B.:— Botanical Survey by the Government of Formosa, with short Sketches on the Vegetation and Flora of the Island. (Act. d. III Congr. Internat. d. Bot. Vol. II. (1912) PP. 59—82. with pl. XII—XXXII.)

本論文ハ三章ヨリナレリ卽チ臺灣ニ於ケル植物調査、臺灣植物帶ノ景觀、及ビ臺灣植物區系ノ性質之ナリ。第一章ニ於テハ初メ一八五八年ウォルフォルド氏ノナセシ植物探究ヨリ現今著者ノ調査ニ至ルマデノ歷史ヲ述ベ終ニ將來ノ計畫ノ一端ヲ示セリ。第二章ニ於テハ先ニ從來臺灣植物ノ景觀ニ就キ記サレタル文獻ヲ擧ゲ次ニ臺灣ノ地形氣候ノ大略及ビ著者ガ一九〇八年臺灣旅行ニ於テ海岸ヨリ平地ヲ經テ遂ニ山地ニ入リシ間ニ觀察セシ植物光景ノ一般ヲ記セリ。臺灣ノ地形ハ大略二部ニ分ル卽チ東部ハ三千尺ヨリ一萬三千百二十尺マデ隆起セル古生層ノ山地體ニシテ西部ハ第四紀層ヨリナル平原ナリ海岸ニハ小ナル砂丘ヲ見ル。臺灣ノ氣候ハ緯度ノ差及ビ海面上ノ高度ニヨリ大差アリ、之ヲ以テ平地ニハ熱帶的ノ植物ヲ見レ

ル、ヤ夙ニ仁ノ表ハル、ニ先ンジテ出現スルモノニシテ勿論ソノ起原ハ核ニアルコトハ敢テ否ムベキニアラザレドモ源ヲ仁ニ仰グベキモノニアラザルニ似タリ、斯クテソノ延長シ核ノ外側ニ添ウテ帶狀ヲナスニ從ヒ核ハ之ニ接シテ延長シ共ニ共ニ螺旋ス、細胞質モ細胞膜ヨリ離レテ收縮シ遂ニ毛生體及ビ核ヲ包ム鞘部トナリソノ後端ハ膨ル、纖毛ハ延長セル生毛體ノ前部ニ生ズレドモソノ起原ハ觀察スルヲ得ズ、生毛體及ビ核ハ遂ニ區別スルベカラザルニ至ル、ナホやぶそてつニ於テハソノ前芽體ハ藏卵器及ビ卵細胞ヲ形成スルコトナクタダ中央部ニ細胞塊ヲ生ジコレヨリシテ直ニ無性世代植物ヲ生ズ、然モ精蟲ハ完全ニ發達ヲ遂グルモノナリ、

扨テ無性世代植物ニ生ズル各胞子囊內ニ於ル胞子母細胞ハ十六個ナレドモ遂ニ二個ヅヽ合着シ核モ從テ融合シ、ハジメハ瓢形ヲ呈セドモ次第ニ球狀ヲナスニ至リ八個ヲ算スベシ、此處ニ於テカ核ハ「シナプンス」期ニ入リ後ハ「マイヨシス」ノ常規ニ從ッテ行動シ常態ニ於テハ三十二個ノ胞子ヲ生ズルニ至ル、染色體ハ前芽體及ビ幼若ナル無性世代植物、胞原細胞ヲ通ジテ平均六十乃至六十五ニシテ蓋原數ナルベク卽無性、有性兩世代ヲ通ジテソノ核ハ原數ノ染色體ヲ荷有スル理ニシテ染色體ノ原數及ビ倍數ハ有性世代及ビ無性世代植物ノ形的性質ヲ左右スルコトナシ、(M. Ishikawa.)

○ファウル氏『ラブルベニアノ細胞學的研究』

Faull, J. H.—The Cytology of *Laboulbenia chaetophora* and *L. Gyrinidarum*. (Ann. of Bot. XXVI. 1912.)

著者ハ *Laboulbenia chaetophora* 及ビ *L. Gyrinidarum* ニ就キテ細胞學的研究ヲ行ヒ嘗テ之ニ關シテ豫報ヲ出シシガ本論文ハソノ詳論トナスベキモノナリ、卽該種ニテハ他ノラブルベニアト異リ造精器ノ形成アルコトナク雄精體ヲマタズシテ雌生殖細胞ノ發達ヲ見ルナリ、扨テ雌器ハ托部ヨリ生ゼル支端ノ單核細胞ニ源ヲ發シ遂ニ造果細胞、受精絲柄細胞及受精絲ヲ形成スルニ至ル、前二者ハ單核細胞ニシテ後者ハ多數ノ細胞ヨリ成ルモノトス、雌器ノ熟スルニ及ベバ造果細胞ト受精絲柄細胞トハ隔壁ヲ失ヒテ合同シ兩者ヨリ來レル二核ハ相融合スルコトナク各一回ノ分裂ヲ行ヒテ爲ニ總計四核連リテ單縱列トナリソノ上部ニ位セルモノ及下部ニ位セルモノハ各新ニ細胞體ヲ形成シ前者ハ再ビ柄細胞、後者ハ下部支持細胞トナル、次デ中部ニ位セシ二核ハ更ニ各一回分裂シ其ノ娘核中或ル二者ハ細胞體ヲ形成シ上部支持細胞、他ノ二者ハ造囊細胞トナリテ前者ノ下部ニ位置ヲ占メ時トシテハ之ヨリ第二下部支持細胞ヲ分生スルコトアリ、カクア造囊細胞ハ二分シ二核ヲ有セル一双ノ娘細胞ヲ生ズ、

視スル學者アリ、本屬ノ植物ハ正常花及ビ閉鎖花ヲ生ズ、其ノ前者ハ五數ヨリナリ後者ハ四數ヨリ成ルヲ常トス、マクシモウィッチガ我ガわだつうナル *K. heterophylla* ヲ記載シテ floribus fere 4-meris トセシハ閉鎖花ヲ檢シテ其ノ然ルヲ知ラズシテ記セシニ過ギズ、之ヲ以テ本種ヲ *K. sylvatica* ヨリ分ツノ要點トナスハ正鵠ヲ得タリト云フベカラズ、予ハ原標品ヲ檢シテ正常花ガ五數ヨリ成ルヲ認メタリ、本種ハ屢々閉鎖花ヲ生ズルヲ以テ、檢査ノ際特ニ注意ヲ要ス。更ニ附記シタキハコルシンスキイガ *K. rhaphanorhiza* ノ葉ハ約同形ナリト記スコトニシテ、コレニヨリテ本種ヲ異形葉ヲ有スル *K. heterophylla* ヨリ分テリ、實際ハ *K. heterophylla* ハ充分成育セル標本ヨリ記載セラレ、他ハ若キ花ヲ着ケタル標品ヨリ記載セラレタルモノナリ、而シテ此ノ標本ノ上部ノ葉ハ下部ノ葉ト大差ナケレドモ、其ノ年齡ニ於テハ遙ニ若ク、未ダ發育ノ途上ニアリ、死セル標本ハ更ニ成長ノ機ナクシテ、其ノ標徵ヲ示ス能ハザレド、若シ此ノ標本ニシテ結實期マデ發育ヲ續クルヲ得タランニハ、必ズヤ異形葉ヲ生ジテ、コルシンスキイヲシテ此ノ誤ヲ釀サシメザリシナル可カリシニ。

大正元年八月

英國　キュー植物園ニテ記ス

◎新著

○アレン女史『羊齒ノ精蟲形成順序及ビ「アポガミー」ノ研究』

Allen, R. F.—Studies in Spermatogenesis and Apogamy in Ferns. (Transaction of the Wisconsin Academy of Sciences, Arts and Letters. Vol. XVIII. pt. 1. 1911.)

著者ハやぶそてつ及ビ、*Adiantum capillus-veneris* ニ就キ精蟲ノ發生順序ヲ研究シ又やぶそてつニ於ル「アポガミー」ト之ニ關聯セル胞子細胞融合テフ新奇ナル現象ヲ研究セリ、

先ヅ精蟲形成ニ當リテハ精蟲母細胞核ノ外側ニ點狀ノ生毛體ノ生ズルヲ見レド其ノ起原ハ追究スルヲ得ザリキ而シテ *Adiantum* ニ於テハ生毛體ハ十六母細胞ノ形成セラ

相スルノ煩ヲサケテ、左ニ射索表ヲ掲ゲテ以テ檢索ノ便ニ供セントス、

一　瓣片ハ倒卵形ニシテ頂端二岐ス……二
　瓣片ハ全緣ナリ……三

二　總テノ葉ハ同形ニシテ、線狀披針形ヲ呈シ、塊根ハ短クシテ蕪菁狀ヲナス……くしろわちがひ
　葉ハ二形ヲ有シ下部ノ者ハ長橢圓狀披針形ヲ呈シ上部ノ者ハ狹卵形又ハ卵形ヲ呈ス、塊根ハ蘿蔔狀ナリ……わださう

三　瓣片ハ倒卵形又ハ長橢圓狀倒圓形ニシテ先端截形ナリ……四
　瓣片ハ倒披針形ニシテ尖レリ……六

四　葉ハ最下ノ者ヲ除イテハ總テ卵形ニシテ短柄ヲ具フ、草ハ一尺ニ達シ、莖ハ直立セズ、先端細纖ニシテ往々根ヲ下ス……*K. Davidi* Franch.
　葉ハ披針形又ハ長橢圓狀披針形ニシテ底部狹少ス……五

五　葉ハ披針狀線形ニシテ尖リ短柄ヲ具ヘ、瓣片ハ長橢圓狀楔形ニシテ微ニ萼ヲ超エ、種子ハ刺ヲ有ス……*K. Rupestris* Turcz.
　葉ハ披針形又ハ卵狀披針形ニシテ比較的長キ柄ヲ具ヘ、瓣片ハ倒卵形ニシテ萼ノ一倍半ヲ算シ緣端截形ナリ、種子ハ點狀ノ隆起ヲ有ス……ひめわださう

六　花梗ハ葉ヲ超ユルコト約二倍、塊根ハ只一個ニシテ肥厚ス……わちがひさう
　花梗ハ葉ト約等長又ハ一倍半ヲ超エズ、塊根ハ細クシテ鬚狀ヲ呈シ數個アリ……ひげねわちがひ

右ノ内 *K. Davidi* ハ支那ニ産シ、*K. rupestris* ハ西比利亞ノ産ナリ。

本篇ヲ終ルニ際シ一言シタキハ、從來學者屢々本屬ノ分類ニ於テ花柱ノ數ニ重キヲ置ケルコトナリ、コハ最モ不安定ナル性質ニシテ分類上ニハ何等ノ價値アルナシ。又往々花ガ四ノ數ヨリ成ルヤ又ハ五ノ數ヨリ成ルヤヲ重要

S. bulbosa Edgew. et Hook. f. in Hook. f Fl. Br. Ind. I, p. 231, non Wuef

K. rupestris Maxim. in Bull. Soc. Acad Sc. Imp. St-Petersb. XVIII, p. 376, quoad pl. Japon. fide ipse

K. eritrichioides Diels in Engl. Bot. Jahrb. XXXVI, Beibl. 82, p. 37.

(和名) ひめわだそう（新稱）

(産地) 富士、箱根、

(分布) 日本、支那、滿洲、ヒマラヤ、

K. heterantha Maxim. in. Bull. Acad. Imp. Sc. St-Petersb. XVIII, p. 376

Syn. *Arenaria Vulcanorum* Maxim. nom. und.

K. rupestris Maxim. in. Fl. As. Or. Fragm. p. 6, non Turcs.

Stellaria rupestris Hemsl. l. c. p. 69. nec *K. rupestris*. Turcz.

(和名) わちがひそう

(産地) 日光、秩父、筑波、九州、

(分布) 日本、支那、西藏、

K. Palibiniana Takeda, sp. nov.

Syn. *K. rhaphanorhiza*, Palib. Fl Kor. I, p. 42, non *S. rhaphanorhiza*. Hemsl. nec *K. rhaphanorhiza* Korsh.

(和名) ひげねわちがひ（新稱）

(産地) 日光、

(分布) 日本、朝鮮、

以上五種ハ本邦産ニシテ、此ノ外ニ二種ノ外國産種ヲ合セテ、七種ノ者本屬ニ隷スルヲ知ル、今是等ノ者ノ形貌ヲ記

ニ生ゼリ、予嘗テ是ガ標本ヲ日光ニ採レリシガ、ビセットモ亦之ヲ同地ニ採リ、其ノ標本ハキユーニ保存セラル。以上述ベタルガ如ク、本屬ノ品種ニシテ我ガ國ニ產スルモノ實ニ五種アリ、今是等ノ者ニ異名及ビ和名等ヲ配シテ羅列スレバ實ニ左ノ如シ

K. sylvatica. Maxim. Prim. Fl. Amur. p. 87.

（和名）ほそばわちがひさう、　くしろわちがひ、

（產地）釧路、十勝、

（分布）日本、朝鮮、滿洲、支那、

K. heterophylla Miq. Frolus. Fl. Japon. p. 351.

Syn. *Stellaria heterophylla* Hemsl. Ind. Fl. Sin. I, p. 68.

K. rhaphanorhiza Korsh. in Bull. Acad. Imp. Sc. St-Petersb. Sér. IX (1898), p. 39.

S. rhaphanorhiza Hemsl. l. c. p. 69.

K. japonica. Korsh. l. c. p. 40.

（和名）わださう

（產地）日光、南部、東京附近

（分布）日本、朝鮮、支那、滿洲、

K. Maximowiciziana Fr. et Sav. Enum. Pl. Japon. II, p. 297.

Syn. *K. Davidi var. stellarioides* Fr. Pl. Dav. i. p. 51. tab. X, fig. 1.

K. Maximowiciziana var. *Davidi* Maxim. in Acta Hort. Petrop. Xi. p. 70.

Stellaria Davidi. v. *himalaica* et *sessilifolia* Fr. Pl. Delav. p. 100.

K. himalaica Korsh. l. c.

○日本產わださう屬ノ植物ニ就イテ　武田

K. sylvatica Maxim.　ほそばわちがひさう

トス、從來ハわださうニ配スルニ *K. Maximowicziana* Fr. et Sav. ノ學名ヲ以テシ *K. rupestris* ヲ其ノ異名トセシガ、本書ニテハ之ヲ轉換セリ。抑モ *K. rupestris* ガ日本ニ產スルヲ言ヒシハマクシモウキツチナルガ、後同氏之ヲ訂正シテ (Fl. Tangutica I, p. 85.)、コハ *K. Maximowicziana* ノ誤ナリトス、サレバ日本種ニハ、*K. Maximowicziana* ヲ取リ *K. rupestris* ハ本邦ノ「フロラ」外ニ驅逐スベキモノナル可シ。

コルシンスキイニヨレバ日本ニハ左ノ種類アリト云フ

K. heterophylla Miq.

K. rhaphanorhiza Korsh.

K. heteranthia Maxim.

K. japonica Korsh.

K. sibatica Maxim.

K. Maximowicziana Fr. et Sav.

右ノ第二種ハ *Stellaria rhaphanorhiza* Hemsl. ヲ改屬セシモノニシテ、モト支那ヨリ記載セラレタルモノナリ、ヘムスレーガ本種ヲ發表スルニ際シテハ少ナカラザル疑ヲ有セシガ、事實此植物ハ *K. heterophylla* Miq. ノ若キモノニ外ナラズ。第三種ハ嘗テマクシモウキツチガ *K. heterophylla* ト斷定セル標本ヨリ記載セラレシモノニシテ、實ハ前記第二種ト其ノ運命ヲ同ジクスルモノナリ。

玆ニ又前記コルシンスキイノ「モノグラフ」ト前後シテ現レタルパリビンノ韓國植物誌アリ、該著者ハ其ノ第一卷四二頁ニ於テ *Stellaria rhaphanorhiza* Hemsl. ヲ改メテ *K. rhaphanorhiza* Palib. トシテ記載セルモノアリ、其ノ記相文ヲ按ズルニ、ヘムズレイノモノト多少相違スル所アリ、而モ其ノ標品ニ至リテハ全然相異レル者ニシテ、且ツ一新種ナレバ、予ハ之ニ命ズルニ *K. Palibiniana* ノ名ヲ以テセントス、此品朝鮮ニ產スルノミナラズ、又本邦中部

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日本産わださう屬ノ植物ニ就イテ

武田久吉

Takeda, H. :—*Kraschenninikovia* in Japan.

せきちく科ニ隷スル此ノ小屬ニ關シテハ從來學者ノ說一定セズ、多クハ之ヲはこべ屬又ハたかねつめくさ屬(*Alsine*)ニ合同スレド、予ハ寧ロ、マクシモウヰッチノ考フルガ如ク、のみのつづり屬(*Arenaria*)ニ近キ、一ノ特立セル屬トナスヲ穩當ナリト信ズ。本屬ノ植物ハ外貌頗ルはこべ屬ノ者ニ似タレドモ、閉鎖花ヲ生ズル點ト、肥厚セル、塊莖ヲ有スル事ト、殊ニ小頭狀ヲナセル柱頭トニヨリテ、截然近緣ノ他屬ト分ツ可シ。

本屬ハ始メテトゥルチャニノフニヨリテ建テラレ、屬スル所ノモノ只一種 *K. rupestris* アルノミナリシガ、後マクシモウヰッチハ之ヲ擴張シテ *K. sylvatica* ヲ加ヘ、ミケルハ第三種 *K. heterophylla* ヲ本邦ヨリ記載シ、漸次新種ノ發見記載セラルヽニ及ンデ、一八九八年ニ刊行セラレタルコルシンスキイノ「モノグラフ」ニハ九種ヲ收ムルニ至レリ。是等ノ者ハ印度、支那、朝鮮、西比利亞、及ビ日本ニ分布シ、殊ニ本邦ニハ其ノ大多數ヲ產ス。予此頃是等ノ諸種ヲ檢シ、各種ノ異同、親緣ニ關スル卑考ハ、不日刊行セラルベキ Kew Bulletin ニ上サントス。今此處ニハ只日本產ノ種類ノミヲ記シテ、以テ同好者ノ參考ニ資セントス。

松村博士ノ名鑑ニ載スル所ノモノ左ノ四種アリ

K. heteroantha Maxim.　わちがひさう

K. heterophylla Miq.

K. rupestris Turcz.　わださう

置ニ達シ、暫時ニシテ再ビ下垂スルヲ常トス、空氣ノ乾燥溫度ノ過度ハ葉ヲシテ垂閉セシム、或種ノ如キハ極少量ノ光線若シクハ溫度ノ變化ニ應ジテ運動シ得、暗室内ニ於テモ葉ノ開閉運動行ハル、コハ日ヲ經ルニ從ヒ漸次ニ不規則トナレドモ、葉ガ病的狀態ニナルニアラザレバ其運動ヲ休止スル事ナシ、青色室内ニ於テハ日光中ニ於ケル者ニ比シ、一日中ノ開閉ノ回數ヲ減ズルノミ、多クハ電氣及ビ機械的刺戟ヲ感受ス、熱セル針金及ビ氷片ニヨル刺戟ニ對シテハ感應微弱ナリ。

葉ノ生理上ノ關係及ビ遺傳的性質ノ如何ハ、其葉ノ運動ヲ左右ス、是、種ニヨリテ其葉ノ運動ノ模樣異ナル所以ナリ、晨ニ於ケル葉ノ開起ハ、前日ニ於ケル光線ノ刺戟ノ結果ニシテ、長時日ノ間同樣ノ事ノ繰返サレタル結果、此運動ニ遺傳的性質ヲ帶バシムルニ至リ、其性質固定シテ、遂ニハ刺戟ナクシテ同一ノ現象ヲ起スニ至レルナルベシト。

◎新刊紹介

○松村博士監修新撰植物圖編第一編第三集

本集載スル所ノ植物次ノ如シくさのわうばのぎく、ちちぶどうだん、いはなんてん、ほそばしやくなげ（以上小松春三氏圖説）こくてんぎ、むらさきつりばな、ひろはのつりばな、つりばな、（以上小泉源一氏圖説）おほめしだ、ひめたにわたり、ひめさじらん、りうきうこけしのぶ、しまくるましだ、いゐじまちやんせんしだ、ほそきかなわらび、（以上兒玉親輔氏圖説）、圖ハ既ニ發行セラレタルモノト同樣ニシテ總テ銅版ニシテ極メテ鮮明ナリ、本年八月十八日發行正價一圓發行所丸善株式會社

◎東京植物學會錄事

退會

本多惠學　永澤定一　渡邊留吉

○死亡

藤井芳夫

○轉居

東京市小石川區原町八十七淺野庄藤方　松田定久

分岐セザルモノヲ交ユ分岐セル毛ハ普通小形ニシテ中軸、中肋、脈上ニアリ或種類ニテハ葉面ヲ覆フコトアリ又單毛ハ分岐セルモノヨリ長ク葉緣脈又ハ中軸上ニ生ズ時ニ單毛中短柄ノ分岐毛ヲ交ユルコトアリ Pemphigus 及腺毛ナシ葉ハ全緣、或ハ淺キ二回羽裂下方少シク細クナルモノト然ラザルモノトアリ暗綠色又ハ薄キ暗綠色ナリ脈ハ單一ニシテ結合セザルモノ、缺刻ノ處ニテ癒着スルモノ或ハ網狀ニ連結スルモノアリ囊堆小形、包膜ヲ有スルモノト然ラザルモノトアリ包膜ハ腎臟形、毛ヲ生ズ稀ニ平滑ナリ芽胞囊平滑數種ニテハ分岐セル刺毛ヲ有ス多クノ種類ニテハ葉上無性芽ヲ有シ或モノニテハ先端ヨリ根ヲ發ス普通中軸ハ上部羽片ノ基部ニ於テ芽ヲ生ズ重ニ亞米利加産ノ種類ヲ含ム、

亞屬十、**Meniscium** (SCHREBER) 亞米利加ノ種類ハ *Goniopteris* ニ亞細亞ノ種類ハ (*Cyclosorus* ニ含マル、ガ如シ亞細亞ノ種類ハ脈及癒着セル囊堆等必要ノ性質一般ニ共通ノ點アレドモ猶 *Goniopteris* ヨリ分岐スルコト疑ナキ能ハズ而シテ分岐セル毛ハ見出シ能ハズ、

○酢漿草科植物ノ葉ノ運動ニ就テ

纐纈理一郎

酢漿草科植物ノ葉ガ所謂就眠運動ヲナスハ、最モ普通ニ目擊セラル、事實ナリ、卽チ晝ハ開キ、夜ハ垂ル、此現象ニ就テハ、古來知名ノ學者ノ研究少シトセズ、玆ニハ只最近ニウルリッチ氏ガペンシルバニア大學ノ實驗室ニ於テ行ヒタル實驗ノ結果ヲ紹介セントス。

氏ハ醫家ノ用フル血壓計ノ如キ裝置ヲ用ヒ、葉ノ運動、實驗中ノ時間ノ長短及ビ溫度ノ高低ヲ、自動的ニ同時ニ同一紙面上ニ記載セシメテ、同現象經過ヲ觀察セリ、實驗ニ用ヒシハかたばみ屬植物九種及ビごれんし屬植物一種ニシテ、各種ニ付テ其平常運動、電氣刺戟及ビ機械的刺戟ニヨリテ起ル運動、熱セル針金ヲ近ヅクル場合又ハ氷ノ一片ヲ葉上ニ置ケル場合、其他暗室內及ビ青光線室內ニ於ケル運動ノ有樣ヲ究メタリ。

運動ノ有樣ハ種ニヨリテ互ニ少ナカラザル差異アリ、其詳細ハ原著ニ讓リ、(Wrich, E. B.:-Leaf Movement in the Family Oxalidaceae. Contributions from the Botanical Laboratory of the University of Pennsylvania. vol. III, No. 3, PP. 211-242) 玆ニハ只其摘要ヲ擧グルニ止ム。

就眠運動ハ晨ニ開キ、夕ニ閉ヅト云フガ如キ簡單ナル運動ニアラズ、多クハ一日中ニ幾度モ葉ノ開閉行ハル、モノニシテ、コハ外圍事情ノ變化ト連關セルモノナリ、自然ノ狀態ニ於テ行ハル、運動ハ、第一ニ光線ノ有無強弱ニヨリテ支配セラル、ハ言ヲ待タズ、溫度及ビ溫度ノ高低モ亦少ナカラザル影響ヲ與フ、晨ニ於ケル葉ノ開起ハ、マタ暗キ內ヨリ初マル、『日ノ出』後少時ニシテ其最高位

ル毛ヲ具フ中肋ノ上面ハ長キ軟キ毛ヲ生ズ、多ノ場合下面ハ數多ノ無柄ナル赤色ノ腺ヲ以テ覆ハル、モ成熟スルニ及ベバ脫離ス鱗片ハ少ナクシテ小ナリ羽片ハ底部裏面ニ於テ大ナル（一糎以上）Aerophlore ヲ具フ猶同樣ニシテ小形ナルモノ裂片ノ中肋ノ底部ニモ存ス、羽片無柄、始中軸マデ羽裂シテ四角形ノ裂片ヲナス脈ハ連結セズ單一、數多クシテ（一側六十ニ達ス）甚接近ス最底部ノモノ缺刻ノ上部ノ葉緣ニ達ス囊堆ハ小形、少シク長楕圓形、相接著ス、無包膜、芽胞囊ハ平滑ナリ、*D. decussata* ヲ以テ型的ノ例トナス、

亞屬六、**Steiropteris** C. Chr. 葉ハ淺ク二回羽裂、根莖長ク横走ス鱗片ヲ供フ鱗片ハ剛質、栗殼色又ハ褐色全緣ニシテ、廣毛茸ヲ生ズ葉面三角形、或ハ少シク底部ニ向テ細クナルモノアリ又稀ニ數對ノ耳形羽片ヲ有ス剛質乃至革質帶灰色或ハ帶褐色ナリ、單一ナル鍼狀毛ヲ具フ毛ノ或モノハ短カク單細胞、或モノハ長クシテ多細胞ナリ多クノ種類ニ於テハ兩樣ノ毛茸中軸及中肋ノ下面ニ混生ス羽片ハ無柄或ハ甚短カキ柄ヲ有ス多ノ種類ニテハ底部下面ニ鋭キ Aerophore ヲ具フ下面ハ腺ヲ有セズ脈ハ連結セズ單一普通少シク上面ニ隆起ス底部ノ一對ハ缺刻或ハ其ノ少シ上ノ處マデ走リ相互ノ間ハ薄キ透明ノ膜ニヨリ癒著スコノ膜ハ乾燥標本ニアリテハ皺トナリ下面ニ於テ中肋ト缺刻トノ間ヲ走ル隆起（Kiel）トシテ表ハル囊堆ハ圓形ナリ永存ス包膜ハ大ニシテ腎臟形、平滑或ハ毛茸ヲ有ス芽胞囊平滑ナリ、*Lastrea* ト *Cyclosorus* トノ中間ニ位スル小屬ニシテ葉面ノ色及下部ノ脈間ニアル皺ハコノ亞屬ノ著シキ特徵ナリ熱帶亞米利加ニ產ス

亞屬七、**Cyclosorus**（Link）葉ハ淺ク二回羽裂、根莖直立或ハ横走シ邊緣屢々毛ヲ帶ベル鱗片ヲ具フ葉面ハ底部廣キカ或ハ少シク狹クナル Aerophore ナシ表面屢々腺ヲ有ス多クノ種類ハ、單細胞ヨリナレル分岐セザル（*Lastrea* 亞屬ニ見ルモノト類似ス）毛ヲ帶ブ僅カノモノニ於テハ二三細胞ヨリナリ又中軸ノ毛ハ基部ニ於テ叉狀ニ分岐スルモノヲ交ユ脈ハ分岐セズ最下ノモノハ缺刻ノ處ニ於テ相會シ或ハ全ク癒著ス囊堆ハ大形、包膜ハ腎臟形永存、毛ヲ有シ屢腺ヲ具フ、芽胞囊平滑ナリけほしだヲ含ム、

亞屬八、**Leptogramma**（G. Sm.）性狀及脈ノ有樣（*Cyclosorus* ニ類似ス然レドモ囊堆ハ無包膜普通線狀又ハ長楕圓形、或モノニアリテハ圓形、芽胞囊ハ刺毛ヲ有スみぞしだヲ含ム、

亞屬九、**Goniopteris**（Presl）根莖直立或ハ横走殆裸出スルカ或ハ小形全緣ニシテ多少分岐セル毛（少ナクトモ尖端ニ近ク）ヲ有スル鱗片ヲ具フ、普通ニ葉柄ノ下面ニ稀ニ中軸及中肋ノ裏面ニ同樣ノ鱗片生ズ、葉ハ殆平滑或ハ毛ヲ有ス毛ハ單細胞ヨリナリ分岐シ短カキ柄ヲ有ス又

鱗片ヲ有ス鱗片ノ邊緣ハ全緣ナルカ指狀凹凸アリ、又時トシテ腺ヲ具ヘ鱗片ヲ形成スル細胞ハ細長ク時ニ甚不規則ニシテ細胞膜ハ曲折ス根莖ハ直立又ハ傾斜シ葉柄ノ基部ト共ニ大ナル普通卵形ノ鱗片ヲ以テ覆ハル、Aerophore（羽片ノ基部ニアル腺狀突起物ヲ云フ）ナシ葉面ノ形狀種々アリ稀ニ下方ニ至テ甚シク狹クナル種類アリ屢三角形ヲナス卽底部ノ羽片最大、其ノ下側ハ上側ヨリモ大ナリ、裏面薄綠、脈ハ游離シ普通分岐ス小脈ハ中肋ト銳キ角ヲナシ起點近クニテハ殆ド平行ス囊堆ハ大ニシテ包膜ヲ有ス包膜ハ大、心臟形、永存、屢腺ヲ具フ、芽胞囊平滑ナリ、をしだ、くまわらび、べにしだ、みやまいたちしだ、ならゐしだ、おほみつで、等ヲ含ム、

亞屬二、**Stigmatopteris**（C. Chr. as genus）、一九〇九年ニ新屬トシテ設ケタルモノナリ、毛ヲ缺ケル點及鱗片ノ構造ハ亞屬一ニ類スレドモ脈及無包膜ナル點異ナル小脈ハ中肋ト鈍キ角度ヲナシ先端葉緣ニ達セズ屢々不規則ニ連絡ス、

亞屬三、**Ctenitis** C. Chr. 葉ハ複雜羽狀、根莖直立、普通鱗片ヲ具ヘ、鱗片ハ先端尖リ其細胞ハ等軸形、四角形或ハ長橢圓形細胞膜ハ普通厚ク稀ニハ曲折ス葉柄、中軸、中肋ノ下面ノ鱗片ハ膨狀ヲナセルコトアリ、又殆常ニ鱗片ノ基部ニ於テ毛茸ヲ生ズ、葉面ハ屢々小腺ヲ供ヘ表面中肋上ニハ短カキ關節アル圓筒狀ノ赤色ノ軟キ毛ヲ生ズ他ノ型ノ毛茸ナシ或ル種類ニテハ一列ノ細胞ヨリナル眞ノ毛ト鱗片トノ中間物ヲ見出スコトアリ Aerophore ナシ葉形種々、稀ニ下方狹クナルコトアルモ普通三角形ナリ下部羽片ノ下側ハ延長ス、帶褐綠色ナリ、脈ハ連結セズ或種類ニテハ分岐ス囊堆ハ小形、包膜ヲ有スルモノト有セザルモノトアリ腎臟形、平滑或ハ關節アル毛ヲ具フ、永存スルコト稀ナリ、

熱帶地方ノ產ナリ、

亞屬四、**Lastrea**（Bory）葉ハ深ク二回羽裂（或ハ複雜羽狀複葉？）根莖ハ長ク橫走シ軟毛ヲ有セル鱗片ヲ以テ覆ハル葉面ハ單細胞ニシテ（僅カノ取リ除ケアリ）先端鉤狀ヲナセル毛茸ヲ帶ブ下面ハ無柄ノ腺ヲ具フ、葉形披針狀、屢々下方縮小ス脈ハ單一或ハ分岐スルモ連結セズ最下底ノモノハ羽片ノ缺刻ノ少シ上ニテ葉緣ニ達ス囊堆ハ小形、圓形、長橢圓形、包膜ハ有ルコト無キコトアリ稀ニ永存ス芽胞囊ハ平滑、二三ノ種類ニアリテハ毛ヲ具フ、羽片ハ無柄、數種ニアリテハ羽片ノ裏面底部ニ Aerophore ヲ具フ、

ひめしだ、はしこしだ、はりがねわらび、みやまわらび、げじげじしだ、うさぎしだ等ヲ含ム、

亞屬五、**Glaphyropteris**（Presl）小亞屬ニシテ各種相互ニ類似ス、根莖ハ匍伏シ二回羽裂ス、軟毛ヲ帶ブ中軸及中肋ハ下面ニ於テ單一カ或ハ甚短キ無柄ノ二三分岐セ

classification of *Dryopteris* ナル論文ヲ公ニセリ左ニコレヲ摘譯セン（*Dryopteris* ナル屬ハ Adanson 氏ガ創メテ立テタル者ナリ後クリステンセン氏ハ一九〇六年 Index Filicum ヲ出版スルニ當リエングレル氏ノ自然分類ニ於ケル *Nephrolium* 全部及 *Aspidium* ノ大部分ヲ包括セル一屬トシテ *Dryopteris* ヲ用ヒタリ）。

ク氏ハ過去五年間ニ於テ五百種約一萬個ノ該屬ヲ研究シテ之レヲ記述センコトヲ企圖シ近々第一卷ヲ公ニセントスルニ先ンジテ研究ノ結果重要ナルモノヲ豫報トシテ發表セルモノ卽本論文ナリ該屬ハ約一千種ノ多數ヲ有シ而モ多クハ各種相互ノ形狀頗ル酷似シテ異同ヲ辨ズルコト極メテ困難ナリ從來ハ脈、囊堆、葉ノ分裂ノ有樣等ニヨリ分類シ來リシガ其ノ極メテ不自然ナルハ研究家ノ常ニ認ムル所ナリ斯ノ如キ大屬ヲ取扱フ場合ニハコレヲ更ニ亞屬ニ區分スルヲ普通トスレドモ單ニ一ノ性質ヲ以テコレヲ定ムル能ハズ幾多ノ性質ヲ綜合シテ以テ亞屬ノ特徵ヲ定ム然レドモコノ特徵ト稱スベキ性質ガ委ク同一亞屬中ノ何レノ種ニモ必ズ發見サルト限ラレタルニハアラズ斯ノ如キヲ以テ唯眼ノ熟練ニヨリテノミ識別シ得ル場合多ク到底僅カノ文字ヲ以テ筆紙ニ表ハシ難シ實際性狀、色澤、脈ノ細微ノ異點等ハ羊齒類ニ經驗アルモノニシテ初メテ氣付キ得ル所ナレバ普通看過シ去ラルヽコト少ナカラズ斯ノ如キ不便ヲ避ケンガ爲ニ出來得ベクンバ或一ノ而モ容易ニ見出シ易キ標徵ヲ捉ヘンコトニ腐心シ從來用ヒ來リシ脈包膜ヲ精檢セシモ一トシテ取ルニ足ラズ却テ毛茸、鱗片及ビ腺ノ構造ガ各種及亞屬ニ固定セル性質ナルコトヲ發見セリ鱗片、毛茸ノ多寡ハ外部ノ影響ニヨリ變化シ得ルモ其ノ構造ノ如キ內部的事項ハ遺傳的ノモノナルコト旣ニ永キ以前ヨリ顯花植物研究家ノ稱ヘ來リシ所ノモノナリ然ルニ羊齒研究家ガ今日迄此點ニ留意セザリシハ寧ロ不思議ノ感ナキ能ハズ、此ノ事實ニ *Dryopteris* ノミナラズ他屬ニ於テモ亦然ルヲ見出シタル人アリサレバ斯ノ如クシテ遂ニヘご屬まるはち屬の如キ大屬ニモコノ分類法ヲ用ヒ得ラルベシ左ニ亞屬ノ性質ヲ記スベシ茲ニ記スル亞屬中ノ何レニモ入ラザルモノアリコレ下記ノ亞屬以外ニ他ノ亞屬ノ存在スルコトヲ意味スルモノニシテ更ニ研究ノ結果此レ等ノ殘存セル亞屬ノ性質ヲモ發見スルヲ得ベシ羽片ノ分裂複雜ナル種類ノ或モノハコノ未知亞屬中ニ含マルベキモノニシテ Diels ガ單ニ此レ等ヲ一括シテ *Decompositae* ナル部類トセシガ如キハ眞ニ人爲的ノ方法ト云ハザルベカラズ是等ノ種類中ノ大部分ハ次ニ揭グル *Eudryopteris* 及 *Cteniti*s 中ニ入ルベキモ然モ猶此レ等ノ種類ノミヨリ成ル部類ノ存在スルコト疑ヲ容レズ

亞屬一、Eudryopteris　複雜羽狀ノ葉ニシテ單細胞ヨリ成ル毛ナシ、屢々小腺ヲ供フ中軸ハ數多或ハ僅カノ薄キ

今回右二名ノ標本ヲ見ルヲ得テ多年ノ疑問氷解致候モノ少ナカラズ候日本ニ於テ專門家アルニ係ラズ之ヲ度外視シテ外國ニ送ル人々ハ少々注意アランコトヲ望ミ申候殊ニ可笑シキハ小生ニ送リタル海藻ノ內少々疑ハシキモノヲ故意ニ名ヲ附セズシテ返シタルニ其ノ人ガ伯林ノリンダウノ處ヘ送リ來リシ由ニ候リンダウハ先日話シ中其ノ事ニ及ビ候マヽ名ヲ附ケテヤツタカト申シタルニ然リト答ヘ候其ノ標本ヲ一見スルニ小生ガ嘗テ檢シタルモノニテ其レニ附ケタル名前ハ奇妙ナル名ニ御座候之レハピルガーノ仕事ト考ヘ候此ノ樣ナル名前ヲモ伯林大學ノ檢定トシテ難有シト思フニ至リテハ笑止千萬ニ候、

○子葉ニ鋸齒ヲ有スル植物

安藤伊作

子葉ニ鋸齒ヲ有スル植物ノ極メテ稀ナルハ普ク認メラルル處ナルガ(たいみんたちばな(Rapanea neriifolia Mez.)ニ之ヲ有スル事ハ曾テ牧野氏ノ報導セラレシ所ナリ)此ニ余ハさんせう科(Rutaceae.)ニ屬スルさんせう Xanthoxylum piperitum, DC. 及びいぬざんせう Fagara schinifolia, Engl. (=Zanthoxylum schinifolia, S. Z.) ガ正シク之ヲ有スル事ヲ實見セリ　卽チ

一、さんせう　ニアリテハ——

Cotyledons shorte petiolate, obovate-elliptical or elliptical, 12—13 mm. long, 7—7.5 mm. broad, retuse, crenulate at the margin, somewhat coriaseons, punctated with glands.〃——ニシテヤガテ此子葉ノ中間ヨリ方形ナル莖ヲヌキ殆ンド對生ノ位置ニ於テ而カモ亦殆ンド同時ニ同樣形態ナル第一葉ト第二葉トヲ生ズ、二者何レモ長キ葉柄ト三ケノ小葉トヨリナレル複葉(卽チ Ternate leaves)ナリ、之ニ次デ更ニ莖ヲヌキ第三葉ヲツク三對ノ小葉ヲ有スル奇數羽狀複葉ナリ之ニ對シ亦略ボ對生ノ位置ニ於テ四對ノ小葉ヲ有セル奇數羽狀複葉ナル第四葉ヲ着生シ以下順次莖ノ伸長ト共ニ小葉ノ數ヲ增加シ遂ニ尋常葉ト同一形態ヲ完備スルニ至ル、而シテ

二、いぬざんせう　ニ於テハ

"Cotyledons shorte petiolate, oblongo-obovate or spatulate, 8—11 mm. long, 4.5—7. mm. broad, obtuse, denticulate or crenulate at the margin."

ニシテ其他子葉ニ關スル事及ビ尋常葉ノ順次備ハル事等ハ前種ト略同樣ナリ、

○クリステンセン氏ノをしだ屬自然分類法

CARL CHRISTENSEN 氏ハ一九一一年十一月 On a natural　玉親輔

二日ニシテ既ニ開發ノ徴ヲ表シ六日ニシテ全ク葉ノ展開ヲ見タリト云フ、茲ニ注意スベキハ本促進作用ハ十月ノ候ニ於テ其ノ効最モ著シク十一月ニ於テハ既ニ早ク其ノ度ヲ減ジ十二月ニ於テハ最早全ク其ノ用ヲナサズト云フ、

○在歐中ノ遠藤博士ヨリ會員某氏ヘノ手紙ノ一節

伯林ノダーレム植物教室ニ於テ海藻標本ヲ毎日眺メ暮シテ以來早ヤ滿二ケ月ニ近ク候、從來伯林植物學教室ヨリハ海藻學者ハ澤山出テ居リ不申、從テ標本ノ數ノ多キニ關ハラズ名前ハ無茶苦茶ニ御座候、目下ピルガー一人ノミ海藻ヲ研究致シ居リ候モ之トテ著名ノ作アルニアラズ、又何程知リ居ルカ少々疑問ニ御座候、ラインボールド、ウキバー、フアンボッセ、ウキレ、ベルゲセン、スコッツバーグ等近傍ニ居ル人々ニ當地着ヲ報ジ候處伯林ノ海藻標本ナドハ見ルニ足ラヌカラ一日モ早ク來レト方方カラ申サレ誠ニ嬉シク候、併シ伯林腊葉室ニ於テ勉強スルノナラバ間違カモ知レ不申候ヘ共（勿論海藻）小生ハ勉強スルニハ無之從來マルテンス及ビハインリッヒノ兩人ガ日本ノ海藻ヲ澤山記載シタル中ニ小生等ニトントト考ノツカヌモノ有之ニ付キ之ヲ原品ニテ調ブルノ目的ニ有之候、毎日々々一ッ二ッ宛ノ珍事實ヲ發見シ歐羅巴人ノ仕事ノ出鱈目ナルニ駭キ居リ候、之ニ付テハ日本ノ標集家ニ一言警告致シ度候、他ノ方面ハイザ知ラズ岡村氏ナリ小生ナリヘ海藻ヲ送ラル、人々澤山アルニ當リ一々之ニ名稱ヲ附シテ返ヘス場合ニハ確實相違ナキモノノミニ名ヲ附シ少シク疑ハシキモノニハ屬名ノミ附スルカ又ハ？ヲ附シテ返スヲ例ト致シ候、之ハ小生等ガ責任ヲ重ンズルガ故ニ候、然ルニ日本ノ人々ノ中ニハ日本ノ海藻專門家ハ知ラナイモノト思ヒ之ヲ西洋ニ送リ候、西洋デハ出鱈目（少々酷ナレド）ノ名ヲ附シテ送リ候、此名ヲ喜ビテ雜誌ナドニ書クニ至リテハ單ニ我等ヲ迷ハシムルノミナラズ植物地理學上色々ノ間違ヒ惹起スル種ト相成リ可申候、マルテンスナドガ日本ノ海藻ノ名ヲ定メ候内ニテ今日マデ正シキモノトシテ殘リ候名前何種有之候哉大概ハ間違ニ有之候、

ハインリッヒノ如キハ歐羅巴ノ海藻學者ノ内ニテモ彼ハ當ニナラヌト申居候ガ黑岩君ガ選リ選リテ此ノ當ニナラヌ人ニ送リシ爲メ小生等ノ頭ヲ腦マシ候事少々ニアラズ候新屬トシテ二ッ程作リシ琉球海藻ハ一ハ確ニ間違ヒ他ハ疑ハシキモノニ候其ノ他ノ種ニ至リテハ實ニ出鱈目ト申スベク候若シ黑岩君ガ少々位ノ事ハ我慢シテ依然岡村氏ニ送リ徐々ニ其ノ結果ヲ見タリシナランニハ確實ニシテ有益ナリシナラムニト今更黑岩氏ノ爲メニ殘念ニ候、

四十四年七月廿一日之ヲ岩代國北會津郡戸ノ口原ニ採集セラル是レ本品ノ一新産地ニシテ蓋シ本種分布ノ南極ヲ示スモノナラン

○さつまほととぎす(新稱)

牧野富太郎

一種ノほととぎすさうヲ得莖葉全クほととぎす卽チ Tricyrtis hirta Hook. ト同ジト雖ドモ唯乾本ニ黃花ヲ著ケ紫花ノモノト大ニ相同ジカラザルコト一目ノ下ニ瞭然タリ予乃チ之ヲ一ノ新種ト考へさつまほととぎすノ新和名ト幷ニ Tricyrtis satsumensis MAKINO. ノ新學名トヲ之ニ與へ將ニ之ヲ發表セントシテ亦躊躇スルノ止ムベカラザルコトアルヲ見出セリ卽チ手ニセル標品ノ花ハ鮮黃色ナリト雖ドモ是レ果シテ生時ノ色乎ほととぎす卽チ T. hirta Hook. ノ花色ハ生時紫色ナリト雖ドモ然カモ其乾本ニ在テハ時ニ花體黃色ニ變ズルノ傾向アルヲ以テ本標品ノ花モ乾腊ノ際ニ黃變セシニハアラザル乎此疑問ヲ決スル後ニアラザレバ輕卒ニ新名ノ發表スベカラザルヲ考慮シ止ムヲ得ズ此ニ新材料ヲ得ルノ日ヲ待テ其如何ヲ公ニスベキコト、ナセリ予ノ手ニセル標本ハ明治四十三年十月鹿兒縣中學校ノ一學生米村君ノ薩摩半島ノ主山脈中ニ採集シタルモノナリ同方面ノ地ニ植物ヲ採集シテ本植物ヲ得ラレタル諸君幸ニ斯學ノ爲メ其標本ヲ惠贈セラルヽアレバ眞ニ幸甚ノ至ナリ

○樹木ノ冬眠ト營養トノ關係

田原正人

樹木ノ冬眠ガ溫度濕度光線等ノ狀態ニヨリテ覺醒サルル事ハ既ニ多數ノ實驗ニヨリテ證明サルヽ所ナルガクレーブス氏ノ最近ノ研究ニヨルトキハ樹木ノ冬眠ト冬期ニ於ケル土壤ノ營養物質含有量ノ減退トノ間ニハ密接ノ關係存在シ若シ樹木ノ營養狀態ヲ良好ナラシムル時ハ著シク冬芽ノ開發ヲ促進スルモノナリト云フ、

Zeitschrift für Botanik 八月號ニ又之ニ關スル (Georg Lakon 氏ノ論文掲載セラレアリ、氏ハ種々ノ樹木ノ枝ヲ切リ取リ之ヲ水及ビクノップ氏液ノ中ニ入レ芽ノ開發ヲ注意シタルニクノップ氏液ニ入レタルモノハ著シク芽ノ開發早ク若シクノップ氏液ニ入ル、前數日間高溫ニ曝ス時ハ結果ハ一層良好ナリト云フ、

今其ノ一例ヲ擧ゲンニむらさきはしどいニ於テハ十月ノ九日ニ於テ切リ取リタル枝ヲ水及ビクノップ氏液內ニ挿シ置キタルニ水中ノモノハ十一月ノ二十三日ニ初メテ葉ノ展開ヲ見タルニ拘ラズクノップ氏液ニ置キタルモノハ十月ノ二十七日ニ於テ既ニ同樣ノ狀態ニ達シタリト云フ、又十月ノ末ニ於テ切リ取リタル枝ヲ三日間二十六度ノ定溫器內ニ置キ後之ヲクノップ氏液ノ中ニ插シタルニ

ス角田金五郎氏ノ採集ニ係ル。

○かたしらげたけ(新稱)

Trametes hispida Bagl.

(所屬)　同上。

本菌ハ外觀しらげたけ(Polystictus versatilis Berk.)ニ似タルモ、硬クシテ厚ク、裏面ノ管孔ハ、彼レト大ニ其趣ヲ異ニスルモノナリ、菌傘ハ無柄ニシテ、半圓形ヲ爲シ、木質ヲ帶ブ、長徑四乃至五「センチメートル」アリ、短徑二乃至三・五「センチメートル」アリ、表面ハ灰白色ニシテ、灰色或ハ汚白色ノ粗毛ヲ被ムリ、少數ノ輪層ヲ具フ、菌傘ノ實質ハ白色ナリ、裏面ハ汚白色ニシテ、菌管ハ長ク、管孔ハ可成リ大キクシテ、多角形ヲ爲ス、上州赤城山ニ產ス。

○あみかはらたけ(新稱)

Polystictus Pocas Berk.

(所屬)　同上。

菌傘ハ無柄ニシテ、覆瓦狀ヲ爲シ、半圓形ニシテ革質ヲ帶ブ、長徑二乃至六「センチメートル」、短徑二乃至四「センチメートル」アリ、表面ハ灰色或ハ灰褐色ニシテ、天鵞絨樣ノ密毛ヲ被ムリ、許多ノ著シキ輪層ヲ具フ、菌傘ノ實質ハ白色ヲ呈ス、裏面ハ汚白色ヲ帶ビ、管孔ハ細孔ヲ爲サズシテ、ヨリ大ナル網目狀ヲ爲シ、孔緣往々齒狀ニ起ス、愛知、新潟諸縣ニ產ス。

○しはたけ(新稱)

Merulius tremellosus Schrad.

(所屬)　基菌門、眞正基菌亞門、同節基菌區、帖菌亞區、さるのこしかけ科、なみだたけ亞科(Merulieae)。

子實體ハ無柄ニシテ重生ス、略ボ半圓形ヲ爲シ、或ハ不規則ニ擴ガリ、寒天樣肉質ニシテ、乾燥スレバ軟骨質ヲ帶ビ、薄クシテ屈曲ス、直徑五乃至八「センチメートル」アリ、表面ハ白色ノ密毛ヲ以テ蓋ハレ、裏面ハ蝦色ヲ呈ス、子囊層托ハ蠟質ニシテ、放射狀、後ニ網狀ニ連結スル淺キ細皺トナル、胞子基ハ棍棒狀ニシテ、四子ヲ擔フ、上州赤城山ニ產ス、角田金五郎氏ノ採集ニ係ル。

○こいちえふらんノ南極

牧野富太郎

こいちえふらん(Ephippianthus Schmidtii Reichb.fil.)ハ我邦中部以北ノ深山中ニ普通ノ蘭品ニシテ其北極ヲ樺太トス卽チ往年該種發見ノ地ナリ今明治四十年八月三十日吉永虎馬君之ヲ土佐國長岡郡白髮山ニ採集セラル是レ蓋シ本種ノ南極地ナリ

○ほろむいいちご岩代ニ產ス

牧野富太郎

ほろむいいちご卽チ Rubus Chamaemorus L.ハ北海道ノ諸處ニ產スルコトハ旣知ノ事實ナリ而シテ玉木靖一君明治

抄錄者私カニ思惟ラク、蘚苔門植物ハ水中生活ヨリ陸上生活ニ移ル過渡期ニ位スルモノニシテ、植物進化上最モ重要ナル位置ニ在リ、從テ本群植物ト高等植物又ハ下等植物トノ關係ノ如キハ最モ興味アル問題ナリト云フベシ、今ヤ著者ハ本群植物ノ藏卵器幷ニ藏精器ノ關係ヲ論ジテ本問題ニ一資料ヲ供給セラレタルハ、植物系統學上豈一道ノ光明ナラズトセンヤ。

○菌類雜記(一一)

安田篤

○ひめやけいろたけ(新稱)

Polyporus adustus (Willd.) Fries, **f. secernibilis** (Berk.)

(所屬)　基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、さるのこしかけ科、さるのこしかけ亞科。

本菌ハやけいろたけ (Polyporus adustus [Willd.] Fries) ノ一形ニシテ、少サク且ツ薄キモノナリ、菌傘ハ無柄ニシテ、覆瓦狀ニ重生シ、半圓形ニシテ革質ヲ帶ブ、長徑二乃至四「センチメートル」短徑一・五乃至二・六「センチメートル」アリ、表面ハ密毛ヲ被ムリ、淡黃褐色ニシテ、黑褐色ノ淡キ輪層ヲ具ヘ、緣邊稍黑色ヲ帶ブ、菌傘ノ實質ハ材色ヲ呈ス、裏面ハ灰褐色ニシテ、管孔ハ多角形ヲ爲シ、頗ル小ナリ、仙臺林地ノ切株面生ズ、又群馬、愛知諸縣ニ產ス。

○ねんどたけ(新稱)

Polyporus gilvus Schwein.

(所屬)　同上。

菌傘ハ無柄ニシテ、半圓形ヲ爲シ、栓質ヲ帶ブ、長徑三乃至六「センチメートル」、短徑二乃至三「センチメートル」アリ、表面ハ多少粗糙ニシテ、淡褐色或ハ灰褐色ヲ呈シ、菌傘ノ實質ハ黃色ヲ帶ブ、裏面ハ黃褐色ニシテ、菌管ハ長ク、管孔ハ圓クシテ小サシ、上州赤城山ニ產ス、本菌ハ嘗テあみならたけノ名ヲ以テ呼ビシモ、種々ノ樹木ニ生ズルニヨリ、菌傘ノ色ハ光澤ナキ黃褐色粘土ニ似タルニ因ミ、本名ニ改ムルコトヽセリ。

○くろがねたけ(新稱)

Fomes caryophylli Rac.

(所屬)　同上。

菌傘ハ無柄ニシテ、半圓形ヲ爲シ、木質ヲ帶ブ、時ニハ菌傘ガ頂點ニ於テ、樹皮面ニ著生スル爲メニ、不規則ナル圓形ヲ呈スルコトアリ、長徑四乃至一五「センチメートル」、短徑二乃至八「センチメートル」アリ、表面ハ黑色若クハ銹褐色ニシテ、著シキ輪層ヲ具ヘ、粗糙ナリ、菌傘ノ實質ハ銹褐色ヲ帶ブ、裏面ハ橙黃色ニシテ、菌管ハ長ク、管孔ハ圓クシテ、頗ル小サシ、本菌ハ最初、瓜哇ノちやうじ上ニ發見セラレシモノナリ、上州赤城山ニ產

第三圖

精源組織ノ如ク、而シテ頸部ニ於テハ一列ニ非ズシテ、二列ノ頸細胞ヲ生ズルコトアリ(第三圖)。

《四》、次ニ述ブルハ藏精器ト藏卵器トヲ結合スベキ中間性ノモノニシテ、其藏卵器ノ下部ニ卵細胞アリテ稍廣キ室ノ底部ニ位ス。コノ室內ニハ卵細胞ノ外ニ二個ノ不定形ナル塊アリ、是レ蓋シ腹溝細胞ノ遺物ナランカ。コノ室ノ上部ハ頸部ニ相當スル部分ニシテ、ソノ下方ニ於テハ頸溝細胞ノ代リニ精源組織ヲ生ジ、其上部ニ至リ始メテ藏卵器ノ頸部ヲ見ル(第四圖)。

第四圖

《五》、若クシテ裂開セザル藏卵器ノ或者ヲ見ルニ、既ニ腹溝細胞幷ニ卵細胞ヲ具ヘ、ソノ腹溝細胞ノ下部ハ膨大シテ卵細胞ノ特性ヲ併有ス。カ、ル藏卵器ニ在リテハ一ノ腹溝細胞ニ隔テラレタル二卵細胞ヲ見ル。

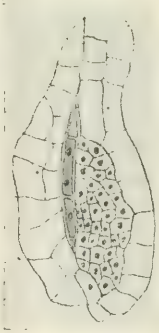
第五圖

《六》、其ノ腹部ニ二個ノ卵細胞ヲ含メル藏卵器アリ。コノ第二ノ卵細胞ハ疑モナク腹溝細胞ヨリ生ジタルモノナリ。

第六圖

《七》、次ニ述ブルモノハ長柄上ニ位スル藏精器ニシテ、其柄頗ル長キガ爲メニ其ノ本來ノ位置タル腔內ヨリモ長ク突出シ葉狀體ノ表面ニ位スルニ至ル。其頂部ハ特ニ延長シ藏卵器ノ頸部ヲ想起セシムルガ如キ構造ヲ有スレドモ、頸溝細胞ハ全ク之ヲ缺除ス(第五圖)。

第七圖



或ル場合ニ於テハ雄性細胞組織ノ代リニ一個ノ大細胞ヲ包有スルコトアリ(第六圖)、又第七圖ハ一ノ藏卵器ノ斜斷面ヲ示スモノニシテ、コノ藏卵器ハ又頗ル長キ柄ヲ具ヘ、卵細胞ノ代リニ精源組織ヲ生ズ、コノ精源組織ハ頸部ニ迄侵入シ、頸溝細胞ノ附近ニ位置スルヲ見ル、頸部ノ上部ハ通常ノ形態ヲ具ヘ、頸溝細胞ヲ生ズ。斯クノ如ク精源組織ノ藏卵器頸部ノ組織內ニ侵入スル現象ハ、其徵候ヲ既ニ第二圖ニ示セル標品ニ於テ看取スルコトヲ得ベシ。

囊ト相同タルノミナラズ、あみぢぐさ科〔*Dictyotaceae*〕ノ四裂芽胞囊ト蘚苔幷ニ羊齒類ノ胞子母細胞トノ相同ナルコトヲ論ジ、以テ藏卵植物群ト褐藻類トノ類緣ヲ述ベタリキ。其他 HALLIER 氏ハ一九〇一年ニ於テ褐藻類、就中 *Fucales* ガ藏卵植物群ノ祖先ナラントノ說ヲ述ベ、又一九〇七年ニ至リ POTONIÉ 氏モ同樣ノ說ヲ特ニ羊齒類ニツキテ唱ヘタルコトアリキ。コノ SCHENK 氏等ノ說ニ具體的ノ證左ヲ與ヘタルハ WILLIAMS 氏ガあみぢぐさ屬〔*Dictyota*〕ニ於テ、山內氏ガカットレリア〔*Cutleria*〕ニ於テ發見シタル藏卵植物群ノ夫レト彷彿タル世代交番ノ現象ナリトス。

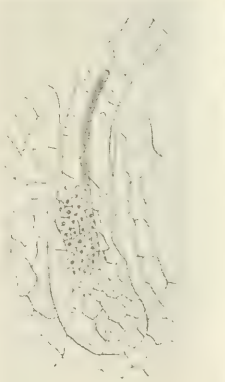
以上ハ著者ノ述ベシ歷史的考察ノ大要ニシテ、其ノ終ニ臨ミ、上述セルガ如キ雌雄兩性的形成物ハ是レ頗ル大切ナルモノニシテ、コレヨリ以テ蘚苔門植物ノ系統幷ニ陸棲植物ノ發達ノ徑路ヲ闡明シ得ラルベキコトヲ論ジ、次ニ著者ハコルシニア、マーカンチオイデス〔*Corsinia marchantioides*〕ノ子囊體發生ノ研究ニ際シ發見セル興味アル雌雄兩性的ノ例ヲ七項ニ分チ論述セリ。而シテコレラノ例ハ苔類ノ雌雄生殖器官ノ相互ニ相同ナリト云フ(GOEBEL 氏ノ說ヲ實地ニ確證スルモノナリトイフヲ得ベシ。

(一)、第一例ハ藏精器ノ異常ノ構造ニシテ、其ノ形態及ビ大サハ毫モ普通ノ藏精器ト異ナルコトナケレドモ、其內部精源組織ノ下部ハ特ニ變ジテ卵細胞ニ化セルコト第一圖ニ示スガ如シ、而シテ其頂部ノ壁ヲ見ルニ通常ハ一層ナルモ本標品ニ於テハ二層ナリ、又他ノ場合ニ於テ下部ノ壁ガ數層ナルコトアリ(第一圖)。

第一圖

(二)、藏卵器ニ於テ其ノ卵細胞、幷ニ腹溝細胞ノ位置ニ精源組織ヲ發生スルコトアリ。又藏卵器ノ下部ニアル足部ハ通常ノ場合ヨリモ發達良好ニシテ、一ノ細胞組織塊ヲ爲ス。頸部ニハ頸溝細胞ヲ見ルモ、腹溝細胞ノ如キハ之レヲ見ルコトナシ、卽チ精源組織ハ卵細胞幷ニ腹溝細胞ノ母細胞ニ由來スルモノナリ(第二圖)。

第二圖



(三)、幼稚ニシテ其口ノ閉塞セル藏卵器ニ於テハ、卵細胞幷ニ腹溝細胞ノ代リニ八個ノ細胞ヲ生ズルコト恰モ

常ニ相一致スル關係ヲ認メ得ベク、之ニ反シテ中間分枝トノ間ニハ、常ニ不一致ノ間係ヲ見出シ得ベシ。

以上ハ本論文ノ大要ヲ摘錄シタルモノナリ。苔類ノ分枝法ハ苔類ノ分類上密接ナル關係ヲ有シ、苔類ノ種屬ヲ鑑定スルニ當リ注意スベキモノニシテ、殊ニ花蕾ヲ附ケタル枝ハ本軸ヨリ如何ニ分岐スルカハ、標品ヲ手ニスルニ際シ見逃ガスベカラザル要點ナリトス。今本論文ニ接シ之ヲ閱讀スルニ當ツテ得ル所少ナカラズ、茲ニ摘錄シテ以テ同好ノ士ニ報ズ。

○藏卵器ノ系統ニ就テ

宮地數千本

本文ハ K. Meyer 氏ガ Zur Frage von der Homologie der Geschlechtsorgane und der Phylogenie des Archegoniums ト題シ、本年モスコー出版ノ Biologische Zeitschrift Bd. II, Heft 3—4. S. 177—187. ニ於テ發表シタル論文ニシテ、蘚苔門植物ノ藏卵器、藏精器相互ノ關係幷ニ其系統ヲ論述シ、其ノ冒頭ニ於テ、該問題ニ關係アル研究ノ歷史的考察ヲ述ベタリ。余幸ニ岡村周諦氏ノ好意ニ依リ本論文ヲ一讀スルコトヲ得タルヲ以テ、茲ニ其ノ大要ヲ抄錄セントス。

從來蘚苔門植物ト下等植物トノ關係ニツキ研究ヲ試ミタルモノ少ナカラズ、就中 Davis 氏（一九〇三年）ハ藏卵器及ビ藏精器ノ互ニ相同タルコト、幷ニコレラ兩器官ト褐藻類ノ多房芽胞嚢（Plurilokuläre Sporangien）トガ互ニ相同器官タルコトヲ述ベタリキ。コレヨリ前既ニ Goebel 氏（一九〇二年）ハ藏精器、藏卵器ノ相同タルコトヲ唱ヘ、雄性幷ニ雌性生殖器管ハ其構造ニ於テモ、其發生ニ於テモ根本的ニ一致スルモノナリト論ジタリキ。然レドモ Davis 幷ニ Goebel 兩氏共ニ何レモ自論ヲ援クベキ具體的ノ證左ヲ得ルコト能ハザリシガ、其後 Holferty 氏ハちやうちんごけ屬〔*Mnium*〕植物ノ藏卵器ノ研究ニ際シ、所謂半藏精器（Halb-Antheridien）半藏卵器（Halb-Archegonien）ト稱スル雌雄兩性的ノモノヲ發見セリ、コノ者ハ外見藏卵器ナルニ拘ハラズ、其ノ內部ニ精源組織（スパーマグネ グウエーベ）ヲ包含スルモノニシテ、是レ實ニ兩氏ノ所論ヲ實地ニ確證セルモノト云フベシ。尙ホ Holferty 氏ノ後ニ至リ若干ノ蘚苔門幷ニ羊齒門植物ニ於テモカヽル雌雄兩性的ノ例幷ニ其ノ他蘚苔門植物ニツキ生殖器官ノ異常ナル構造ヲ見タル例多シ、是等ノ事實ヨリ考察スレバ蘚苔門植物ト羊齒門植物トニ於テ其ノ生殖器官ノ互ニ相同タルコト、及ビ是等ノ藏精器、藏卵器ハ何レモ褐藻類ノ多房芽胞嚢ト相同ノ器官タルコトヲ推知スルニ難カラズ。茲ニ於テ藏卵植物群〔*Archegoniatae*〕ノ祖先ヲ直接ニ褐藻類中ノ一群中ニ求メントスルモノ少ナカラズシテ、Schenk 氏ノ如キハ一九〇九年ニ至リ、藏精器藏、卵器ガ多房芽胞

け亞屬ニ見ル所ノ型ニシテ、枝ハ側面分裂片ノ背方半部ニ起リ、枝ノ始源細胞ノ第三分裂片ハ腹方ニアリ、而シテ枝ノ螺旋ハ常ニ軸ト共ニ同向螺旋ヲナス、之レ本型ノ枝ハ常ニ分裂片ノ陽極半部ニ於テ起ルガ故ナリ。

(三)**あくろますちがむ型**。本型ハ今ヨリ十年前エバンス氏ガ布哇產ノ苔類ニツキテ設立セルあくろますちがむ屬ニ見ル所ノモノニシテ、枝ハ腹面分裂片ノ半部ニ起リ、枝ノ始源細胞ノ第三分裂片ハ、ひめすぎせにごけ型ニ於ケルガ如ク腹方ニアリ、而シテ枝ノ螺旋ハ分裂片ノ陽極若クハ陰極ノ半部ニ於テ起ルノ相違ニヨリテ、同向若シクハ逆向ノ螺旋ヲナス。

(四)**けびらごけ型**。けびらごけ屬 *Lejeunea* 等ニ見ル所ノ型ニシテ、枝ハ側面分裂片ノ腹方半部ニノミ起リ、枝ノ始源細胞ノ第一分裂片ハ、時トシテハ腹方ニ起ルモノアリト雖モ、大低側方又ハ基脚ノ位置ニアリ。枝ノ螺旋ハ常ニ枝軸ノ左側ニ於テ左旋スルカ、又ハ右側ニ於テ右旋ス。

どんすごけ型、ひめすぎせにごけ型及あくろますちがむ型ニアツテハ、枝ハ常ニ枝ノ始源細胞トナレルモノト同一ナル分裂片ノ他半部ヨリ生ジタル所ノ不完全ナル葉ヲ伴ヒ、けびらごけ型ニアツテハ、同ジク他半部ヨリ生ジタル完全ナル葉ヲ伴フヲ見ル。

四、頂上分枝殊ニどんすごけ型ニアツテハ、其ノ枝ノ基脚ニ生ズル葉ハ、其ノ形狀、大サ及ビ其ノ附屬物ノ狀態ニ於テ**多少**ノ**變化**アルヲ見ルベシ、而シテ此ノ變化ハ**或**ル特別ナル應化トナリ、又ハ復原傾向ヲ有スルヲ見ル。

五、中間分枝ノ**位置**ハ側面又ハ腹面ニアリ。其ノ螺旋ハ枝軸ノ螺旋ト關係スルコト少ナキカ、或ハ全ク關係アルヲ見ズ。枝ノ始源細胞ノ第一分裂片ノ**位置**ハ一定ノ條規ニ支配セラルルモノナルヤ否ヤハ不明ナリ。枝ノ基脚ニアル葉ノ變化ハ、常ニ復原的ノ傾向ヲ有ス、

六、系統發生及ビ個體發生ノ上ヨリ考察スルトキハ、どんすごけ型ハ最初ニ現ハレタルモノニシテ、けびらごけ型ハ後ニ生ジタルモノナリト云フベシ。而シテ是等ハ近キ祖先ヨリ生ジタルモノニ非ズシテ、遠キ祖先ヨリ來リタルモノナリト決論スルコトヲ得ベシ。又頂上分枝ト中間分枝トノ二者ニツキテ其ノ出現ノ順序ヲ考察スルトキハ、前者ハ先キニ現ハレ、後者ハ後ニ生ジタリト云フコトヲ得ベシ。けびらごけ型ハどんすごけ型ヨリ誘導セラレテ生ジタルモノニシテ、其ノ變轉ハ枝ノ形成スル途中ニ於テ其ノ形成ヲ休止スルニヨリテ起ルモノト見ルベク、頂上分枝ヨリ中間分枝ニ變轉スルコトモ亦之レト相同ジ、故ニ此ノ休止ハ進化ニ於テ重要ナル事實トナルモノニシテ、其ノ休止ノ原因ハ或ル刺擊ニ歸スベキモノナリトス。

七、非常ナル發育器官ノ生長ト頂上分枝トノ間ニハ、

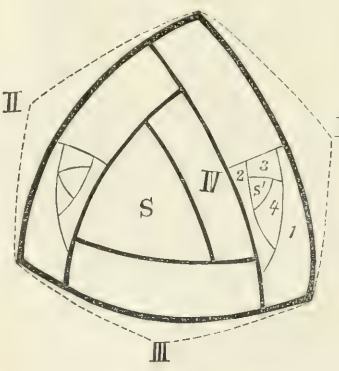
一、ライトゲブ氏ハ頂上分枝ト中間分枝トノ二者ヲ其ノ發生ノ始メ枝トナルベキ始源細胞ノ位置ニヨリテ分チタリト雖モ、此ノ兩者ガ完成セル枝ニ於テハ如何ニ區別セラルルモノナルヤノ研究ニ及バザリキ。然ルニエンバス氏ハ更ニ此ノ點ニツキテ研究シ說明シテ曰ク、『頂上分枝ハ外長的ニ起リ、中間分枝ハ內長的ニ起ルヲ以テ、其ノ結果トシテ、頂上分枝ニアッテハ、其ノ枝ノ表部組織ハ主軸ト連續スト雖モ、中間分枝ニ於テハ其ノ基脚ニ普通ノ表部組織ニヨリテ形成セラレタル鞘部ヲ見ルノ差アリ』ト。

二、うろこごけ族ニアッテハ、頂上分枝ト中間分枝トハ明了ニ區別シ得ベシ、而シテ頂上分枝ニアッテハ、其ノ枝ハ甚ダ幼キ生長點細胞ノ分裂片ニ起リ、中間分枝ニアッテハ、多少老成セル細胞ニ其ノ起因ヲ見ル。

三、頂上分枝ハ其ノ枝ヲ形成スル所ノ始源細胞ノ位置ニヨリテ之ヲ左ノ四型ニ分チ得ベシ、

(一)どんすごけ型、(Frullania Type)
(二)ひめすぎぜにごけ型、(Microlepidozia Type)
(三)あくろまちがむ型、(Acromastigum Type)
(四)けびらごけ型、(Radula Type)

(一)及ビ(四)ハライトゲブ氏ニヨリテ先ニ定メラレタルモノナリト雖モ、(二)(三)ノ兩型ハ新ニエバンス氏ニヨリ定メラレタルモノナリ。今是等ノ四型ヲ區別スルニ便ナラシメンガ爲メ。生長點細胞分裂ノ模型圖ヲ揭グ、此ノ模型圖ハどんすごけ型ノモノヲ頂上ヨリ見タルモノナリ。



(圖解)
S ハ主軸ノ頂細胞即生長點細胞。
I II III IV ハSヨリ分裂セルモノ。
S' ハIノ腹方半部ニ生ジタル枝ノ頂細胞即チ枝ノ始源細胞ヲ示ス。
1－4 ハ枝ノ頂細胞ノ前裂片。

(一)**どんすごけ屬**。どんすごけ屬、すぎぜにごけ屬、やすでごけ屬(*Plagiochia*)、うろこごけ屬(*Chiloscyphus*)等ノ屬スル型ニシテ、枝ハ側面分裂片(I)ノ腹方半部ヨリ起ル。枝ノ始源細胞(S')ノ第一分裂片(1)ハ腹面ニアリテ常ニ下葉(*Amphigastrien* = *Under-leaf*)ノ起源ヲナシ、第二分裂片(2)ハ頂上ノ位置ニアリテ第一側葉ノ起源ヲナシ、第三分裂片(3)ハ基脚ノ位置ニアリテ第二側葉ノ起源ヲナス。枝ノ螺旋ハ若シ枝ガ分裂片ノ陽極半部ニ於テ起ルトキハ、軸ト共ニ同向螺旋ヲナシ、之ニ反シテ陰極半部ニ於テ起ルトキハ、軸ト逆向螺旋ヲナス。

(二)**ひめすぎぜにごけ型**。すぎぜにごけ屬ノひめすぎご

氣審風梳新柳髮　氷消浪洗舊苔鬚

二六、有葉苔類ノ分枝ニツキテ。

苔類ノ新條ニ於ケル分枝ニツキテハ、今ヨリ約四十年前ライトゲブ氏ニヨリテ周到ニ研究セラレタルコトアリタリキ。勿論是ヨリ以前ニ於テモ、此ノ問題ニツキ考究シタル學者ナキニシモ非ズト雖モ、其ノ研究ノ範圍ハ何レモ葉狀體ヲ有スル苔類ノミニ限ラレタルガ如シ。然ルニライトゲブ氏ハ之ヨリ一歩ヲ進メテ有葉苔類《葉ト莖トノ別明ナルモノ卽 *Reboulia, Preissia, Fimbriaria* 等ノ如キ、苔類中多數ノ種ヲ有スルうろこごけ族〔*Jungermaniales*〕ノモノヲ指ス》ノ分枝ニ其ノ研究ヲ弘メ、其ノ著述ハ苔類ノ分枝ニツキテ參考スベキ重要ナルモノトシテ知ラル。氏ハうろこごけ族ノ分枝ハ、眞ノ二叉分岐ニヨリテ形成セラルルモノニ非ズ、換言スレバ新條ノ頂細胞ガ、藻類ノ *Dictyota* 屬ニ於ケルガ如ク、中央ヨリ縱ニ二分シテ新條ノ頂細胞ヲ生ズルモノニ非ズシテ、頂細胞ヨリ生ジタル細胞ガ更ニ特別ナル分裂ヲナスニヨッテ起リ、常ニ單軸分岐ヲナスモノナルコトヲ唱ヘタル最初ノ人ナリト云フベシ。氏ハ尙ホ詳說シテ曰ク、後ニ枝トナルモノノ頂細胞ハ、甚ダ幼キ本軸ノ頂細胞ノ分裂片ニ於テ現ハルルモノニシテ、若シ此ノ枝ガ主軸ノ一側ニアリテ、主軸ニ似タル大サヲ有シ、且其ノ伸長ノ方向斜ナランカ、此ノ分枝ハ二叉分岐ノ如キ觀ヲ呈スルニ至ル、コノ例ハむかでごけ屬〔*Bazzania* = *Mastigobrium*〕及ビおかⅡかづのごけ〔*Metzgeria furcata* (L.) Lindb.〕ニ見ル所ノモノナリ。若シ又之ニ反シ、此ノ枝ガ主軸ヨリ小ニシテ、明了ニ側方ニ向ッテ伸長スルトキハ、其分枝法ハ眞ノ單軸分岐トナル、はいⅡすぎせにごけ〔*Lepidozia reptans* (L.) Dum.〕及ビひめⅡてんぐさごけ〔*Riccardia multifida* (L.) S. F. Gray.〕ノ如キハ卽チ此ノ好例ナリトス。斯ノ如ク枝ノ始源ガ生長點頂細胞ニ接シテ起ルトキハ、氏ハ之ヲ頂上分枝ト稱ヘ、之ニ對シテ其ノ始源ガ生長點頂細胞ヨリ或ル隔タリタル所ニアルモノヲ中間分枝ト名ケタリ。而シテ頂上分枝ヲどんすごけ型（Frullania Type）ト、けびらごけ型（Radula Type）トノ二型ニ分チタリキ。

有葉苔類ノ分枝法ニ就キテハ、ライトゲブ氏以後ニ於テ、ミューラー、シフナー、ステファン等ノ諸氏ニヨリテ多少研究セラレ、其ノ所見ノ發表セラレタルモノアリト雖モ、未ダライトゲブ氏ノ加キ大研究ヲ見ザリキ。然ルニ北米ノ苔類分類學者トシテ著名ナルエバンス氏ハ近頃此ノ問題ニ向ッテ大々的ノ研究ヲナシ、ライトゲブ氏ノ研究ヲ增補シ、苔類分枝法ニツキ吾人ニ新知識ヲ與ヘタルコトアリ、今玆ニ氏ノ所論ノ大要ヲ摘錄スルトキハ凡ソ左ノ如シ。

權大納言公實卿

さよひめの遊ぶところか奥山の
あをねかみねの**こけ**のむしろは

前中納言匡房卿

ふかみどりいはねが上にむす**苔**や
窓にのぼらぬけふりなるらん

權中納言師時卿

年ふれば**苔**のみつらをゆひわけて
いはねのすがた神さびにけり

源　仲正

としへたるいはほが上に雪ふりて
おひにけらしな**苔**のしらひげ

慈鎭和尚

こけのおひに秋の山もと夕まぐれ
なが〳〵いまは物もおもはず

俊成卿

いはたたむ山のかたその**こけ**むしろ
とこしなへにも物おもふかな

前中納言定家

いくよへぬかさしをりけん古へに
三輪のひはらの**こけ**のかよひぢ

基俊卿

岩の上の**こけ**の葉ごとにおく露を
たましく庭とみけるやはわが

家隆卿

にはの面に**こけ**のしがらみかけてけり
せきいれし水のすへよはるまで

民部卿爲家

おく山の木だかき松の**さがりごけ**
おなじみどりにとしやふりぬる

中務卿みこ鎌倉

たにふかみとしふりにける岩がねの
こけの葉なびきやまず風ぞふく

同

風はやきをすての山のゆふだちに
こけながらちるまきの下つゆ

御嵯峨院　御製

住吉とおもはん人のためなれや
きしにしくてふ**こけ**のさむしろ

衣笠内大臣

すみよしのうらはのきしによる浪の
おもはぬほどは**こけ**むしにけり

民部卿爲家

まつとてもたれ住吉のきしもせん
浪のかけほす**こけ**のさむしろ

都　良香

實驗植物	蘚帽ヲ附ケタルモノ	蘚帽ヲ除キタルモノ
Dicranum fuscescens	十六週後尚生存ス	五週後枯死ス
Mnium hornum	十週後尚生存ス	四週後枯死ス
Barbula unguiculata	廿五週後尚生存ス	六週後枯死ス
Funaria hygrometrica	十週後尚生存ス	二週後枯死ス

{乙} **溫度ニ對スル抵抗ニツキテ。**

第一、最低ノ溫度ニ對スル研究。多クノ蘚類ノ新條ハ攝氏十度(華氏十四度)ニ至ルマデハ、少シモ害ヲ蒙ムルコトナシト雖モ、攝氏氷點下廿度(華氏氷點下四度)ニ至ツテ其ノ葉ハ結氷ス。若シ尚溫度ヲ降シテ攝氏氷點下三十度(華氏氷點下二十二度)ニ至レバ、最モ能ク抵抗スル種ト雖モ、尚枯死スルヲ免レズ。

第二、蘚類ノ結氷點ハ其ノ生育地ノ溫度ニ應ジテ異ナルモノニシテ、コハ蘚類組織ノ直接ノ應化ト見做スベキモノナリ。今 *Funaria hygrometrica* ヲ攝氏廿度ノ所ニ於テ培養セルモノヲトリテ、之ヲ攝氏氷點下五度ニ置クトキハ直ニ枯死スルヲ見タリト雖モ、嚴冬正月中ニ於テ戶外ニ採集セルモノヲトリテ、之ヲ攝氏氷點下十五度ニ置クモ、尚完全ニ之ヲ枯死セシムルコトヲ得ザリキ。

第三、新條ノ生長點及葉ノ基脚ニ於ケル細胞ハ、普通ノ葉細胞ヨリモ乾燥及ビ寒冷ニ對シテ能ク抵抗ス。而シテ更ニ水ノ供給ヲ得ルトキ、又ハ高溫ニ過フトキハ、新條ノ新組織ヨリ植物體ノ形成ヲナシ得ベシ。〔Edgar Irmscher,:—Über die Resistenz der Laubmoose gegen Austrocknung und kalte. (Jahrbücher für wissenschaftliche Botanik L. p. 387—449, 1912.)〕

二五、こけヲ詠ミタル詩歌。

古人がこけヲ如何ニ觀、如何ナル感想ヲこけニ有シタルカヲ調査スルモ、「こけの人」ノ一事業トナスベシトノ好奇心ニ驅ラレ、所持ノ歌集ヲ閱シテ左ノ數首ヲ得タリ。

よみ人知らず

わが君は千代に八千代にさゞれ石の
いはほとなりてこけのむすまで

貫之

こけながくおふるいは井の久しさを
君にくらべんこころやあるらん

躬恒

千代をふる松にかゝれるこけみれば
年のをながくなりにけるかな

よみ人知らず

ときはなる松にかゝれるこけなれば
年のをながきしるべとぞ思ふ

清原元輔

萬代をながらのはまのさゞれ石は
こよひよりこそこけはむすらめ

ルカ、又岩上、樹上ノ產ナルカニヨリテ相違アルモノナリ。今其ノ葉細胞ノ死ヲ標準トシテ數種ノモノニ於ケル抵抗ノ長サヲ比較スルトキハ次ノ如シ

	地上產ノモノ	岩上、樹上產ノモノ
Mnium rostratum……	八週	
Fissidens hyppoides……		五〇週
Orthotrichum speciosum……		六〇週
Cathrinea undulata……	一三週	
Blasia pusilla……		六〇週
Blasia pusilla……	二五週	
Ulota Ludwigii……		五〇週
Orthotrichum speciosum……		六〇週
Blasia pusilla……		六〇週

岩上樹上ニ產シ、常ニ乾生群落ヲナス蘚類ハ、其ノ長期ノ乾燥ニ堪フルコト、實ニ驚クベキモノト云フベシ。尙ホ氏ガ實驗セル蘚類中、*Grimmia apocarpa* (L.) Hedw. ハ百廿八週(凡二年半)ノ後ニ於テサヘモ、葉ノ細胞ノ或ルモノハ、生活セルヲ見タリト云フ。

第三、乾燥ニ對スル抵抗ハ、同一種ニアツテハ其ノ生育地ノ含水量ニヨリテ左右セラルヽモノナリ、例ヘバ *Bryum argenteum*. L. ヲ植エタル器ヲ水中ニ置クトキハ、六週ニシテ枯死スベシト雖モ、單ニ濕潤ナル空氣中ニ培養セルモノニアツテハ能ク八週ノ長キ間ヲ保ツヲ見タリキ。今此ノ事實ヲ自然ノ狀態ニ於テ有スル種ニツキテ見ルトキハ、一層適切ナル好例ヲ得ベシ、卽チ *Dryanocladus adunens* (Hedw.) Warnst. ノ陸生品ヲ標品トセルモノニアツテハ、二十週後ニ於テモ尙其ノ一部分ノ生存ヲ認メタリト雖モ、其ノ水生品ニアツテハ、僅ニ四週ノ後全部ノ死ヲ見タルコトナリトス。

第四、多クノ蘚類ガ其ノ生育地ニ於テ、蘚氈 (Rasen) ヲ形成スルコトハ、乾燥ニ抵抗スル一種ノ準備ト見做シ得ベク、此ノ形成ニヨツテ其ノ蒸散面ヲ減少セシムルコト大ナリト云フベシ。今 *Ceratodon purpureus* ニ於テ、若シ數百千ノ個體ガ集リテ蘚氈ヲナスモノヲトリテ試ミルニ、乾燥ノ時期ヲ通ジテ能ク水分ノ蒸散ヲ防ギ生活ニ堪ヘ得ベシト雖モ、若シ其ノ新條ヲ分離シテ存置スルトキハ、直チニ枯死スルヲ見ルニヨリテ此ノ事實ヲ確メ得ベシ。

第五、長期ノ乾燥ト濕潤トガ交互ニ來ル時ハ、蘚類ハ比較的速ニ害セラレ枯死スルヲ見ル。今 *Bryum capillare* ニツキテ實驗スル所ニヨレバ、此ノ交代十度ニシテ枯死スルヲ見タリキ、

第六、原始體ノ乾燥抵抗ノ狀態ハ、葉ノ細胞ニ於ケルモノト一致ス。

第七、蘚帽ハ幼キ子囊ヲ保護シ、其ノ乾燥ヲ防グニ必要ナルモノナリ、……此ノ事ニ關シテハ、本雜錄(五)(本誌二百五十四號一二九頁)蘚帽ノ用ノ條下ニ詳說セリ……今蘚帽ヲ除キタルモノガ如何ニ其ノ害ヲ蒙ルカハ、氏ガ實驗ニ基ク次ノ比較表ヲ見ルトキハ、容易ニ理解スルコトヲ得ベシ。

テノミ見ル事、エロディユムノ花ノ變色現象ハ加溫時間ノ長短ニヨリ差アルモ其抽出液ニハ其差ナキ事、生活セル花片ノ色ガ高溫度ニ對スル新平衡狀態ニ達スルマデニ要スル時間ハ其抽出液ニ於ケルヨリモ長時間ヲ要スル事等ノ理由ハ、生活セル花ノ中ニハ變色作用ヲ妨グル或ル物ノ存在スルガ爲ナルベク、著者ハ生活細胞ノ膠樣狀態(Kolloidaler Zustand)ヲ以テ其原因ナラント想像セリ、變色作用ガ加溫時間ノ長短ニヨリテ差異アルハ生活セル花片ニ於テ見ラルヽニ反シテ其抽出液ニハ全ク見ラレザルハ、一見花ノ生活力ト關係アルガ如シト雖モ「クロロホルム」ニテ殺セル花片ニ於テモ之ヲ見ラルヽヲ見レバ必ズシモ然ラズ、然レドモ此事實ハ彼ノ刺戟感受作用ガ刺戟ヲ與フル時間ノ長短ニヨリテ差アル事實トヨク類似スルヲ見レバ多少細胞ノ生活力ト關聯アルヤモ知ルベカラズ。

次ニ或植物ノ花ノ抽出液ガ何故ニ變色現象ヲ現ハサヾルカ、無論具體的ノ解釋ハナシ得ザルモ、花ニヨリテ其色素ニ化學的差異アルハ其一原因ナルベシ、又エロディユムノ花ノ變色現象ハ何等カノ生態的意味アリヤ否ヤ、固ヨリ不明ナルモ、自然ニ於テ此現象ハ餘リ著シカラザルヲ見レバ斯カル意味アリト思ハレザルナリ。

(續續)

◎雜　錄

○蘚苔類雜錄(其一一)

岡村周諦

二四、濕度及ビ溫度ニ對スル蘚類ノ抵抗

植物學各方面ノ研究材料トシテ、近時蘚苔類ヲ用フルコト漸次ニ多キヲ加ヘ、其ノ研究ノ結果ハ興味アルモノ少シトセズ。表題ニ揭グル所ノ問題モ亦、近時 EDGER IRMISCHER 氏ガライプチッヒナル PFEFFER 敎授ノ許ニ於テ研究、發表セラレタルモノニシテ、殊ニ蘚苔類ヲ材料トシテ此ノ問題ヲ研究セルコトハ、單ニ植物生理生態學上ニ稗益セルノミナラズ、進ンデ植物進化論ノ研究ニ向ツテ貢獻セル所少ナカラズトセズ。今其ノ要點ヲ摘錄スレバ左ノ如シ。

{甲} **濕度ニ對スル抵抗ニツキテ。**

第一、蘚類ハ一般ニ連續セル乾燥狀態ニモ能ク壞ヘ得ベク、常ニ沼澤ノ地ニ生ジ、水生蘚類ニ近キ *Dreparocladus adunctus* (HEDW.) WARNT. ノ如キモノニ於テサヘ、其ノ葉ノ細胞ハ尙廿八週ノ長キ間能ク乾燥ニ抵抗セリ。

第二、乾燥ニ於ケル抵抗能力ハ、其ノ種ガ地上ノ產ナ

ユム、グルイヌムニアリテハ十五分間以上ヲ要シ、エロディユム、キコニユムニアリテハ略二分間ヲ要スルガ如シ、此時限内ニ於テハ加熱ニヨリテ一旦變色シタル花色ガ原色ニ復スルニ要スル時間ハ加熱ノ時間長キニ從テ愈愈長シ、而レドモ此時限外ニアリテハ加熱ノ時間永ビクモ復色ニ要スル時間ハ之ニ從テ伸ブル事ナク一定セル如シ。

サテ此ノ花色變化ノ際ニハ連續セル二段ノ現象行ハルルヲ見ル、

第一段	第二段
藍色ガ赤色トナル	赤色濃度ノ減退
赤色ガ藍色トナル	藍色濃度ノ增進

加溫ノ際　冷却ノ際

卽チ第一段ハ變色（Farbenwandlung）第二段ハ褪色又ハ色素再生（Farben-schwund oder Farbenstoffregeneration）ナリ、此第二段ノ現象ハ彼ノ刺戟感受ノ際理論上起ルベキ化學的現象ト相似タルヲ見落スベカラズ、然レドモ此變色現象ハ細胞ノ生活力トハ關係ナキガ如シ、實驗ニヨレバ「クロロホルム」又ハ水ノ蒸氣ニテ殺セル花ニ於テモ亦同樣ノ變色現象ヲ認メ得ラル、故ニ此ノ現象ハ死細胞中ニモ起リ得ベキ一ノ化學作用ニ外ナラザルベシ、サレド之ヲ以テ直チニ此現象ト刺戟感受ノ際起ルベキ化學作用トハ全ク別種ノ作用ナリトハ云フベカラズ。

花色變化ノ現象ガ生活現象ニアラザルヲ知リタル以上吾人ハ花ノ抽出液（Blütenextrakt）ガ同樣ノ現象ヲ現ハスヤ否ヤヲ知ラント欲ス、著者ノ實驗ニヨレバ「アルコール」抽出液ヲ蒸發セシメテ得タル滓渣（Rückstand）ノ水溶液ハ生活セル花片ニ見タルト殆ンド同樣ノ變色現象ヲ現ハス、只異ナルハ此液體ニアリテハ冷却ノ際原形ニ復スルニ要スル時間ハ加溫ノ時間ト何等ノ關係ナク略一定セルモノ、如シ、尙直接水ヲ用ヒテ花片ヨリ取レル抽出液（Wasserextrakt）ニ於テモ同樣ノ現象アリ、然レドモ此液ハ冷却ノ際原色ニ復スルニ「アルコール」抽出液ノ場合ヨリモ長時間ヲ要ス、兩者ニ斯カル差アルハ恐ラク兩者ノ酸性（Azidität）ニ差アルニ起因スルナルベシト、

著者ハ尙ホ前記二種植物以外ノ藍色菫色赤色等ノ花ヲ以テ同樣ノ實驗ヲ試ミタルニ其花片ニ於テハ前記ノ如キ現象ヲ見ルヲ得ザリシニ反シ、其抽出液ハ同樣現象ヲ現ハスモノ多シ、而モ又一方ニ於テハ此現象ヲ現ハサヾル抽出液アリ、之ヲ見レバ「アントーシアン」ヲ含有スル抽出液ハ必ズシモ同現象ヲ現ハスベキ特性アルニアラザルモ、時ニハ此性ナキ抽出液モ鹽酸ヲ以テ酸性トナセバ此性ヲ現ハス事アリ。

抑モ斯クノ如ク花又ハ其抽出液ガ變色現象ヲ現ハス理由ハ如何、著者ノ考ニヨレバ色素ガ溫熱ニヨリテ可逆的（reversible）ニ變化スルニヨルナルベシト、而シテ或ル種ノ花ニテ變色現象ヲ生活セル花片ニ見ズ只其抽出液ニ於

ハ常ニ十五ナリト云フ）

以上述ベ來リタル三型ノ偶然變種ガ其ノ性質ヲヨク遺傳スルモノナルカ否ヤハ特ニ興味アル事ナルガ不幸ニシテ第三型ハ全ク種子ノ發芽ヲ見ル事ナク第一及ビ第二型ハ僅ニ其ノ後繼者ヲ生ジタレドモ其ノ性質全ク母植物ト異ナルモノナリシト云フ、之ヲ要スルニルッツ氏ノ發見セル三型ノ植物ハ總テ其ノ性質ヲ遺傳セザルモノト稱スル事ヲ得ベク恐ラクハ其ノ生殖細胞造成ニ際シ特異ノ現象起リ染色體數ノ如キモ舊數ニ復サントスル傾向ヲ示シ從テ其ノ外觀的特徵ノ遺傳モ亦完カラザルモノナルベシト思考セラル、（遺憾ナル事ニハ著者ハ此ノ後繼植物ノ染色體數ヲ確ムル事能ハザリシト云フ、）

著者ハ尙進ミテ諸種ノ興味深キ問題ヲ捕ヘ來リ之レニ關スル自己ノ實驗ヲ述ベ最後ニエノテラニ關スル今後ノ研究問題ヲ提供セリ、多大ノ勞力ノ籠レル頗ル有益ノ一論文ト稱スルヲ妨ゲザルナリ、

M. TAHARA.

○フイッチング氏『花ノ特殊ナル變色現象』

Fitting, H. :— Ueber eigenartige Farbänderungen von Blüten und Blütenfarbstoffen. (Zeitsch. f. Bot. Jahrg. III, H. 2, pp. 81—105, 1912)

生物體ノ刺戟感應現象ハ未ダ實驗的ニ解釋セラレタルヲ聞カズ、只理論上ヨリ一種ノ化學作用ニ外ナラズト見做サル、此現象其物ヲ具體的ニ說明ヲ下スハ今日ニ於テハ至難ノ業ナリ、サレド若シ人アリ、此現象ト相似タル他ノ現象ヲ生物體中ニ證明シ解釋スルヲ得バ、同問題ヲ解決スル上ニ一大光明ヲ與ヘ得ベシ、著者ガ本研究ハ正ニ之ニ觸レタリ。

おらんだふうろ屬ノ二種エロディユム、グルイヌム（Erodium gruinum）及ビエロディユム、キコニウム（E. ciconium）ニ付テ爲セル實驗ニヨレバ、彼ノ濃藍色ヲナス花ヲ攝氏四十度乃至四十二度ノ溫室中ニ移セバ花色ハ漸次褪色シテ薔薇色トナル、此物ヲ再ビ冷氣中ニ返セバ花色ハ又原色ニ復ス、カヽル花色ノ變化ハ摘取セラレタル一片ノ花片ニ於テモ亦行ハル、花色ノ變化ヲ起サシムルニハ必ズシモ高溫度ヲ要セズ、二十二度乃至二十六度ニテ足レリ、尙自然ノ狀態ニ於テモ既ニ此花色變化ヲ認メラル、卽チ樹陰ニ咲ケル花ハ藍色ヲ、日光ニ直射セラルヽ花ハ帶赤色ヲ呈ス、著者ハ是等ノ事實ヨリシテ思ヘラク、一定ノ溫度ニ對シテハ一定セル花色ノ出現ヲ見ルベク、此際溫度ト花色トハ互ニ平衡狀態ニアルヲ意味スルモノナルベシト、

而シテ溫度變化ノ際花色ガ其新溫度ニ對スル平衡狀態ニ達スルマデニハ一定ノ時間ヲ要ス、實驗ニヨレバ攝氏四十二度ニ對スル平衡色ニ達スルマデノ時間ハエロディ

體數ヲ有セル偶然變種ヨリモ寧ロ二十一本ノ染色體數ヲ發育細胞ニ具有スル偶然變種ノ方頻々ト現ハル、モノナルガ如シト云フ、

著者ガ始メテ二十一本ノ染色體ヲ發育細胞ニ於テ有シ外觀亦一種ノ特徴ヲ具ヘタル二植物ヲ發見シタルハ一九〇八年ノ夏ニシテ該植物ハラマルキアーナノ偶然變種ノ一ナルエノテラ、ラタヲ母トシラマルキアーナヲ父トシテ生ジタル雜種ノ內ニ生ジタルモノナリ、翌年ハ如何ナル故ナリシカ多大ノ注意ヲ以テ同型植物ノ再現ヲ期待セシト雖モカ、ルモノ一ツモ生ズル事ナク翌々年卽チ一九一〇年ニ到リテ同型ノ植物八本出現セリ、其ノ起原ハ色々ニシテ

一、エ、ラタ×エ、ラマルキアーナ……二本
二、エ、ラマルキアーナ×エ、ラマルキアーナ……五本
三、エ、ラタノ自家受粉ニヨルモノ……一本

カク其ノ起原ハ種々ナレドモ其ノ外觀ハ極メテ能ク一致シ植物全體ノ高サ、枝分レノ模樣ナドハラマルキアーナト酷似シ花ノ大ナル事、花瓣ノ色ガ濃キ黃色ナルコト、植物ノ總テノ部分ガ一般ニ强直ナル事等ハエ、ギガスノ如キ面影ヲ呈ス、而シテ染色體數ハ八本其ニ發育細胞ニ於テ二十一本ナリ（以下本型ノ植物ヲ假ニ「ルツツ型偶然變種」ト稱スベシ、）

玆ニ何人ニモ起コルベキ疑問ハ是等ノ植物ノ起原ガ其實前ニ擧ゲタルガ如キモノニアラズシテ不知ノ間ニエ、ギガスノ花粉來リテ受精ヲ全シ以テ發育細胞ニ於テ二十一本ノ染色體數ヲ有セル植物ヲ現出シタルモノナルベシトノ疑問ナリ、

著者ハ此ノ疑問ニ答ヘテ曰ク「エ、ラタ及ビエ、ラマルキアーナヲ母トシテエ、ギガスヲ父トシタル雜種ハ實際ニ於テ發育細胞ニ於テ二十一本ノ染色體數ヲ有スレドモ其ノ性質所謂ルツツ型偶然變種トモ異ナルノミナラズ二種ノ雜種間ニ於テモ亦其ノ性質相異シルツツ型偶然變種ノ其ノ起原ヲ異ニスルニ係ラズ其ノ外觀全ク同型ナルトハ全然其ノ趣ヲ異ニス、又當時エ、ギガスハ四分ノ一「マイル」モ遠方ニ存シタルノミニシテギガスノ花粉ノ來リタル事ハ殆ド想像スル事能ハズ」ト、

著者ハ尙ルツツ型偶然變種ノ外ニ他ノ二型ノ注目スベキ偶然變種ヲ發見セリ、一型ハエ、ラマルキアーナ×エ、ラマルキアーナニ其ノ起原ヲ發シ他ノ一型ハ自家受粉ヲ行ヒタルエ、ラタニ其ノ起原ヲ發セシモノニシテ此ノ二型ハ共ニ各唯一本ノ植物ニヨリテ代表セラレタルモノナリ、而シテ染色體數ハ前者ニ於テハ二十ヨリ少ナクハナク二十二ヨリハ多キ事ナク後者ニ於テハ二十二本ナル事確實ナリト云フ、（本著者ノ多數ノ個體ニ就キ精細ニ檢査シタル所ニヨレバエ、ラタノ發育細胞ニ於ケル染色體數

ヲ通ジテ葉肉内ニ浸入ン、所在ノ同化澱粉ニ反應シテ直チニ濃黒色ヲ呈セシム、其著色ノ有無ハ葉ノ上面ヨリ容易ニ認識シ得ベク、以上即座ニ葉肉内ノ澱粉ノ有無多寡ヲ知ラル、茲ニ注意スベキハ、今「エーテル」、「アルコール」、「キシロール」、等ノ溶媒ノミヲ以テ同一ノ處理ヲナス時、矢張リ葉肉内ノ暗黒色トナルヲ見ル、然レドモ此暗色ハ暫時ニシテ褪色スベク、彼ノ「沃度エーテル」ノ浸潤ニヨリテ生ズル黒色ノ漸次濃厚ノ度ヲ益スニ比シテ明カニ區別シ得ベシ、又透入光ニヨリテ見ル時ハ前者ハ透明ニ後者ハ黒色ニ見ユ。此方法ハ彼ノザックス氏沃度試法ニ比シテ頗ル簡單ニシテ、講義室内ニ於ケル實地示教ニ最モ好都合ナリ、無論此方法ハ葉面氣孔ノ開口シ居ル場合ニノミ適用シ得ベキモノニテ、氣孔ノ閉鎖シタル葉ニアリテハ、「沃度エーテル」ハ葉面ヨリ揮發シテ黒點ヲ殘ス、コハ綿ナドヲ以テ容易ニ拭ヒ去リ得、斯クノ如ク全々「沃度エーテル」ノ浸潤作用行ハレザル時ニハ針ヲ以テ葉面ヲ傷ケ、氣孔ニ交ルベキ浸入孔ヲ作レバ同樣ノ効果アリ。

（續續）

○ルッツ女史『まつよひぐさ屬ノ偶然變化ト染色體數』

Lutz. A. M.: — Triploid Mutants in *Oenothera*
(Biol. Centrb. Bd. XXXII. 1912. p. 385—435.)

ド、フリース氏ノ偶然變化説ヲ以テ有名ナルエノテラ、ラマルキアーナノ染色體數ハ發育細胞ニ於テ十四生殖細胞ニ於テ七ナリ、然ルニ本著者ルッツ氏ハ一九〇七年其ノ偶然變種ノ一ナルエノテラ、ギガスガ其染色體數母植物ニ比シ丁度倍ナル事ヲ發見セリ、

若シ假リニ偶然變種ノ生成ガド、フリースノ稱フル如ク偶然變化ヲナセル一生殖細胞ト通常ノ性質ヲ具有セル生殖細胞トノ交配ニ起因スルモノナランニハ發育細胞ニ於テ二十四本ノ染色體ヲ有スルエノテラ、ギガスノ如キ偶然變種ヨリモ寧ロ二十一本ノ染色體ヲ發育細胞ニ於テ有スル偶然變種一層屢出現スベキノ理ナリ、如何トナレバ倍ノ染色體數ヲ有セル卵細胞及ビ精細胞ノ癒合ニヨリテ始メテ發育細胞ニ於テ倍ノ染色數ヲ有スル偶然變種生ズル譯ナレバ斯クノ如キハ實ニ非常ニ稀ナル場合ト見ザルヲ得ザルヲ以テナリ、

然ルニ今日マデノ文獻ニ徵スル時ハ二十一本即チ十四本ト七本ノ和ノ染色體數ヲ發育細胞ニ於テ現ハス偶然變種一ツモ存スル事ナシ、コレ少シク不可解ノ事ト稱セザルヲ得ザルナリ、

本著者此ノ點ニ注目スル所アリベルジウム、ルーベンノ教室ニ於テ數年來此ノ方面ニ向ヒ研究ヲ行ヒツヽアリシガ今回本報告ヲ公ニセリ、

本報告ニヨル時ハ實際發育細胞ニ於テ二十四本ノ染色

量ノ花粉ヲ以テセル柱頭ハ一旦閉合シ次テ開展シ後再ビ閉合ス、此場合若シ他種植物ノ花粉ヲ以テスル時ハ第二ノ閉合ハ決シテ起ラズ(d)極多量ノ花粉ヲ以テセル柱頭ハ一旦閉合シテ後開展スルコトナシ、而レドモ他種ノ花粉ヲ以テスル時ハ或時間ノ後再ビ開展ス。サテ斯クノ如ク花粉ノ多寡及ビ其由來(Herkunft)ニヨリ同種柱頭ニ異ナレル現象ノ起ルハ何故ナルカ著者曰ク、

(甲)柱頭ノ受粉ニヨル第一次閉合ハ器械的刺戟感受ノ結果起ルモノニシテ、純粹ナル刺戟運動ナリ、刺戟物(即チ花粉)ノ如何ハ之ニ關セザルナリ。

(乙)受粉セル柱頭ノ永久閉鎖ハ嘗テブルク氏ガ云ヘル如ク、花粉ガ柱頭組織内ヨリ水分ヲ奪取スルニ起因スルナルベシ、然レドモ此現象ハ花粉ガ同種植物ノ物ナル時ニ限ルヲ見レバ、他ニ尚ホ何等カノ原因無クンバアラズ、著者ノ實驗ニヨレバ漸次柱頭内ニ進入スル花粉管ガ周圍ノ組織ニ化學的害毒ヲ及ボス事其一原因ナリト。

(丙)前記(c)ノ場合ニ見タル第二次閉合ハ受粉セザル柱頭ニ起ラザルヨリ見レバ受粉ト關係アルヤ必セリ。此現象ハ柱頭上ニ於ケル花粉管發芽ノ不充分若シクハ不能ナル他種由來ノ花粉受粉ノ際ニハ起ラザル事、同種植物ノ花粉ニテモ殺害セラレタル花粉受粉ニヨリテハ起ラザル事等ヨリ考フレバ花粉粒其物ニハ關係ナキガ如シ、故ニ吾人ハ其原因ヲ花粉管ニ求メザルベカラズ、著者ハ思ヘラクコハ花粉管ノ水分奪取作用若シクハ化學的傷害作用ニヨルナルベシト。

著者ハ尚柱頭ノ閉鎖運動ハ生態的如何ナル意味アルカニ就テ論ズラク、前記(c)ノ場合ニ見タル永久閉鎖ハ水分ヲ要スル花粉管發芽作用ニ大ナル利益ヲ與フルナランモ、此現象ハ極多量ノ花粉ヲ受粉セル場合ニノミ起ルモノニテ、自然界ニ於テハ斯クノ如キ場合ハ極メテ稀ナルベキヲ思ヘバ、之ニ生態的意味ヲ附與スルヲ得ズ、且ツ此現象及ビ第二次閉鎖運動ハ花粉管發芽ノ結果トシテ起ルベキモノナレバ、此等ノ現象ニヨリテ花粉若シクハ花粉管ガ或ル利益ヲ得ルモノト思ハレズ、柱頭ノ刺戟感受性ニヨリテ受ケ得ル唯一ノ利得ハ、其第一次閉鎖運動ニヨリテ一時花粉ハ柱頭唇片内ニ包マレ、ソガ發芽ニ必要ナル水分ヲ幾分カ早ク吸收シ得ル點ニアルノミ。

(續續)

(ネーゲル氏)簡單ナル沃度試法

Neger, F. W.; — Eine abgekürzte Jodprobe. (Berich. d. Dent. Bot. Gesellsch. 1912, Bd. XXX, H. 2, pp. 93—6.)

最近發表ノモーリッシ氏「浸潤試法」ヲ應用シテ、著者ハ簡單ニ葉肉内ノ同化澱粉ノ存否ヲ知ル方法ヲ案出セリ、其方法ハ先ヅ「エーテル」中ニ少量ノ沃度ヲ溶解セシメタルモノヲ、葉ノ下面上ニ滴下セシムレバ、此溶液ハ氣孔

著者ハ尙葉ノ凋萎ト氣孔ノ開閉トノ關係ヲ究メタリ、其結果ハ區々ニシテ、多數ノ植物ハ凋萎ノ際一部又ハ全部氣孔ヲ閉鎖ス、然レドモ或ル者ニアリテ全ク乾枯ノ狀態ニ達スルモ尙氣孔ハ開口ノマヽ也」ト。（續續）

ルッツ氏刺戟感受性柱頭ニ就テ

Carl Lutz：— Untersuchungen über reizbare Narben. (Zeitsch. f. Bot. III, 5, pp. 289—348)

刺戟感受性柱頭ニ就テ是マデ主ニ生態的方面ノ研究行ハレシガ、著者ハ是ガ生理學的研究殊ニ其刺戟運動ノ機ヲ究メントセリ、研究材料トシテみぞほほづき屬（Mimulus）はなうりくさ屬（Torenia）等ノ二唇裂柱頭ヲ用ヒタリ、著者ハ先ヅ本研究ニ入ル前ニ、開花ノ際ニ於ケル柱頭ノ開展作用ハ其内外兩面ノ不等成長ニ起因スルモノニアラズシテ、柱頭組織内ノ膨壓ト連關セル不等伸長（Dehnung）ニ依ルモノナル事ヲ確メタリ。

(一)柱頭ハ器械的、化學的何レノ刺戟ヲモ感受ス、器械的刺戟ハ柱頭ノ基本組織全部ニ變形（Deformation）ヲ來サシメ得ベキ場合ニ於テノミ有効ニシテ、單ニ柱頭内面ニアル彼ノ乳頭突起若シクハ毛樣體ノミヲ變形セシメ得ル程度ノ動作ニヨリテハ何等刺戟運動ヲ惹起セシメ得ズ。而シテ彼ノ乳頭突起ハ刺戟感受體ニアラズシテ單ニ刺衝體（Zirkulatoren）タルニ過ギズ。刺戟運動ハ種々ノ原因ニヨリテ影響ヲ受クルモノニシテ、開花後六七時間ヲ經テ刺戟感受性其最大ニ達シ五日乃至七日ノ後ニハ全ク消滅ス、組織ノ膨壓大ナル程刺戟感受性大ニテ、反覆サレタル刺戟ハ單一ナル刺戟ヨリモ有効ナリ、毎時間内ニ多數ノ連續セル刺戟ヲ與フル時ハ「筋肉強直」（Muskeltetanus）ト同樣ノ現象ヲ起ス、攝氏十度以下若シクハ四十度以上ニ於テハ感受性ヲ失ヒ二十二度乃至三十度ノ濕度ヲ以テ最良度トス。化學的刺戟トシテ働キ得ルハ「エーテル」、「クロロホルム」、「アンモニア」、鹽酸等ノ蒸氣ナリ。

(二)二唇裂セル柱頭ノ一方ノ唇片ニ與ヘラレタル刺戟ハ他方ノ唇片ニ傳導セラル、而レドモ或ル種ニ於テハ此事無キガ如シ、刺戟傳導ノ通路ハ維管束ニアラズシテ基本組織内ニ於ケル原形質ナリ。

(三)柱頭運動ノ動機ハ成長運動ニヨラズシテ膨壓ニ關係アリ、卽チ此運動ハ柱頭ノ内外兩面ノ不等收縮ニヨルモノニシテ、刺戟ニヨリテ起ル此兩面ノ收縮ノ比ハ二ト一ノ割合ナリ、カクテ柱頭ハ閉合ス、然ラバ如何ニシテ斯カル膨壓ノ變化ヲ來スモノナルカ、著者ハペッファー氏ノ言ヲ引用シテ或ル化學作用ニ依ルナラント。

(四)受粉（Bestäubung）ト柱頭運動トノ間ニ如何ナル關係アルカニ就テ爲セル著者ノ實驗ニヨレバ(a)受粉セザル柱頭ハ凋萎スルマデ開展ノ儘ナリ(b)小量ノ花粉ヲ以テ受粉セシメタル柱頭ハ一旦閉合シ暫時ニシテ再ビ開展ス(c)多

◎新著

モーリッシ氏『氣孔ノ開閉ヲ知ル一新法』

Hans Molisch, Das Offen- und Geschlossensein der Spaltoffnungen, veranschaulicht durch eine neue Methode (Infiltrationsmethode). (Zeitsch. f. Bot. Jahrg. IV, H. II, pp. 106—92, 1912.)

氣孔ハ植物生理上重要ナル器官ナルヲ以テ、之ガ開度ヲ決定スルヲ要スル場合多々アリ、從來種々ノ方法行ハレシガ、著者ハ新タニ一法ヲ案出セリ、浸潤試法（Infiltrationsmethode）ト云フ。液體ノ毛細管現象ヲ利用シタルモノニテ、或ル液體ヲ葉上ニ滴下セシメ、葉面ノ小孔卽チ氣孔ヲ通ジテ液體ガ葉肉内ニ浸入シ得ルヤ否ヤヲ檢スルニアリ、水ハ此目的ニ適セズ、無水「アルコール」ヲ好シトス、今其少量ヲ葉ノ下面上ニ滴下セシムレバ、「アルコール」ハ氣孔ヲ通ジテ葉肉内ニ浸入スベシ、面シテ其浸入シタル處、暗色ヲナス、若シ氣孔ガ總テ閉合シアレバ「アルコール」ハ葉肉内ニ浸入スル事ナシ、乃チ此簡單ナル方法ヲ以テ、氣孔ノ開口、閉合ヲ探知シ得ベシ。

此目的ニ對シ「ベンゾール」、「キシロール」、「テレピン」油等ハ尙一層ノ效果アリ、之レ是等ハ「アルコール」ノ浸入シ得ザル些細ナル孔ヲモ浸入シ得レバナリ、然レドモ氣孔閉合シ居リテ液體ガ葉肉内ニ浸入シ得ザル場合、「アルコール」ニアリテハ葉ノ組織ニ暫時無害ナルモ、「ベンゾール」、「キシロール」等ニアリテハ、早ク表皮ニ害ヲ與ヘ、氣孔ノ開閉ニ關セズ直接表皮ヲ通ジテ組織ニ化學作用ヲ及ボスノ缺點アリ、而シコハ相當ノ時間ヲ要スルヲ以テ、其氣孔ヲ浸入セル場合ノ迅速ナルニ比シ明カニ區別シ得ベシ、「エーテル」及ビ「クロロホルム」モ亦使用ニ堪ユレドモ、其餘リニ早ク揮發シ去ルノ缺點アリ。

此方法ハ餘リ多毛ナル葉ニハ適セザルモ、一般ニ生理學上大ナル效果アリ、著者ハ此法ヲ利用シテ、先ヅ晴明ニヨル氣孔ノ開閉如何ヲ試驗セリ、夏日日中ヨリ翌日日中ニ至ル二十四時間黑紙ヲ以テ葉ノ一部ヲ包ミ置キテ試驗セシニ、其被包部ノ氣孔ハ、からすむぎ、すかんぽ等ニアリテハ全ク閉合シ、のげし、たんぽぽ等ニアリテハ一部分閉合シ居タルノミ、然ルニ或ル暑キ夏ノ一日著者ハからすむぎノ氣孔ガ被包半時間ニシテ全ク閉合シタルヲ見タリト。夜間ニ於テ氣孔ハ閉合スルモノナリヤニ付テ從來學者ノ說一致セズ、著者ガ同法ヲ用ヒテ試驗セシ結果ニヨレバ、多クノ植物ハ夜間ニ於テ一部若シクハ全部其氣孔ヲ閉鎖スト、然レドモコハ時期、溫度、風力、濕度等ニ關係アリテ必ズシモ同一ノ結果ニ達セザルベシ。

	Helicobasid, Tanakae	*Septobasid. pedicellatum*
擔子體ノ色彩	栗褐色－白茶色	帶褐白茶色－帶黑色
左表面	天鵞絨狀ノコト多シ	稍々平滑ナルコト多シ
菌絲ノ色	茶褐色	栗褐色
菌絲ノ直徑	四μ	三•五μ
前擔子柄	缺	存（球形）
擔子柄ノ形狀	紡錘形（直形）	圓柱形（彎曲）
同大サ	四九－六五×八－九μ	二四－四八×六－八•五μ
同隔膜數	二－四	三
小梗	三五－六三×三•五－四μ	一二－一五×三μ
擔子胞子	二七　四〇×四－六μ	二一－二五×四－五μ

上ニ見ル如ク兩者全ク異レルモノニシテ誰シモ明ニ其區別ヲ認メ得ベキモノナリ

臺灣ニ於テハ *Septobasidium pedicellatum* (Schw.) Pat. 菌ノミヲ産シ *Helicobasidium Tanakae* 菌ヲ見ルコトナク又東北地方ニ於テハ *Helicobasidium Tanakae* Miyabe 菌ノミヲ存在シ *Septobasidium pedicellatum* 菌ヲ見ルヲ得ザルハ蓋シ *Helicobasidium Tanakae* 菌ハ北方ノ産ニシテ *Septobasidium pedicellatum* 菌ハ南方ノ産ナルベシ再ビ記シテ桑苧紫病菌ハ異レル二種ノ種類アルヲ明カニスベレヲ記スルニ當リ懇篤ナル指導ト貴重ナル材料ト圖書トヲ貸與セラレタル理學博士宮部金吾先生幷ニ山田玄太郎先生ニ對シ深厚ナル謝意ヲ表ス、

○再ビ桑苧紫病菌ニ就テ　澤田

	Helicobasid. Tanakae	*Septobasid. Pedicellatum*
擔子體ニ於ケル菌絲	3.5—4μ（普通 4μ）	3.5μ
擔子體ノ周圍ノ新シキ菌絲	3.5—4μ（普通 3.5μ）	3—3.5μ
子實層面ノ菌絲	2.5—3μ	2.5—3μ

斯ノ如クニシテ田中氏ノ記述セル直徑ハ二—三μトアリ此等ノ何レニ當ツベキヤハ疑問ニシテ或ハ子實層面ニ存在スル菌絲ノ大サヲ示シタルモノニアラザルナキカ、

四、擔子柄ヲ檢スルニ *Helicobasidium Tanakae* 菌ニ於テハ紡錘形ニシテ稍〻直形ヲナシ別ニ前擔子柄ヨリ抽出セラルヽコトナク大サ四九—六五×八—九μアリ *Septobasidium* 菌ニアリテハ圓柱形ヲナシ強ク彎曲シ球狀ノ前擔子柄ヨリ抽出セラレ二四—四八×六—八。五μアリ而シテ田中氏ノ記スル所ノモノハ極メテ細クシテ僅カニ三μノ直徑ヲ有ストアリ又氏ノ原圖ヲ見ルニ實ニ痩小ナルモノナリ余ガ實見シタル所ヨリ考フレバ氏ハ全ク眞實ノ擔子柄ヲ見ズシテ子實層面ニ存在スル菌絲ノ切斷セラレタルモノヲ畫キタルモノナラザルカ其證トシテ胞子ヲ認メズ又擔子柄ノ直徑ハ子實層面ニ於ケル菌絲ノ直徑ニ等シク又繪ニ現ハセルモノハ此等近似種ノ擔子柄ノ如クナラズシテ却ツテ菌絲ニ酷似スレバナリ

此等ノ要點ニ就テ調ベタル結果桑膏藥病菌ハ *Helicobasidium Tanakae* 菌ニ近似シ別ニ *Septobasidium pedicellatum* 菌ニ類似セル點ヲ認ムベクモアラズ猶二三ノ標本室ニ就テ見シ所ノ桑膏藥病菌ハ皆 *Septobasidium pedicellatum* 菌ニ非ズシテ *Helicobasidium Tanakae* 菌ナリキ此ニ依リテ是ヲ見レバ我國ノ植物病理學書ニ現ハレタル桑膏藥病菌ハ *Helicobasidium Tanakae* 菌ナルベクシテ或ハ *Septobasidium pedicellatum* 菌ヲモ包含セルモノナルベキカ今玆ニ備考トシテ兩者ノ要點ニ就キ其差違ヲ擧ゲン

絲ハ紋羽病菌ノモノヨリ細小ニシテ二―三〃ノ直徑アリ小梗ハ極メテ小ニシテ擔子柄上ニ於ケル數ヲ明カニ知ルヲ得ズ擔子柄ハ痩細ニシテ三〃ノ直徑アリ又他ニ子實層ニ於テ屢々菌絲ノ頂端擔子柄狀トナレルモノヲ交フ其後白井光太郎、出田新及由田玄太郎氏等ノ著書ニハ其病原菌ヲ *Xylobasidium pedicellatum* (Schw.) Pat. トナシ記述セリ而シテ其添加セル記事ヲ見ルニ

桑ノ外さくら、むめ、すもも、かうぞ、かぢ等ニ發生ス云々胞子ハ頗ル微細ニシテ圓筒狀ヲナシ紋羽菌ノ胞子ノ如ク腎臟形ヲナスコトナシ云々、

トアリ今此等ノ記事ニヨリテ愚考スルニ

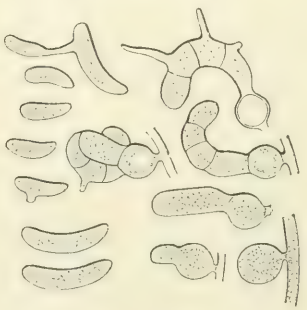
一、余ハ東北地方ニ於テ桑膏藥病菌ヲうめ、すもも、さくら、もも、くわ等ノ上ニ發見シ得タルモ皆 *Helicobasidium Tanakae* 菌ノミニシテ他ニ *Septobasidium pedicellatum* 菌ヲ認メ得ザリキ又 *Septobasidium pedicellatum* 菌ハ北亞米利加キユバ、セーロン、ニユージーランド等ニ於テ *Ulmus, Corylus, Ostrya, Quercus, Salal* 等ノ植物ノ上ニ發見セラレ余ハ只桑ノ上ニノミニテ未ダ他植物ノ上ニ發見セズ此點ヨリスレバ桑膏藥病菌ノ記事ハ *Helicobasidium Tanakae* 菌ニ近シ

二、叉擔子體（Pelius）ヲ見ルニ *Helicobasidium Tanakae* 菌ハ普通栗褐色ニシテ栗褐色―白茶色―帶灰色等ニ變化ス又 *Septobasidium pedicellatum* 菌ニ於テハ普通帶褐白茶色ニシテ帶褐白茶色―鼠色―帶紫淡褐色―帶黑色等ニ變化ス而シテ膏藥病菌ノ記事中ノ色彩ハ紫褐色トアルヨリスレバ寧ロ *Helicobasidium Tanakae* 菌ニ近シ

三、叉菌絲ヲ檢スルニ擔子體ヲ組成セル菌絲ハ *Helicobasidium Tanakae* 菌ニ於テハ茶褐色（Umber color）ニシテ直徑三・五―四〃（概シテ四〃）アリ又 *Septobasidium pedicellatum* 菌ニ於テハ栗褐色（Chestnut color）ニシテ三・五〃ノ直徑アリ猶若キ菌絲及子實層ニ於ケルモノ等ヲ兩者ニ就テ比較スルニ次表ノ如シ

古キモノハ表皮漸次剝ゲ煤褐色綿狀トナルコトアリ此附着部分ノ莖ハ增大ヲ妨ゲラレ凹陷ス枝條上ニ附着スル點ハ漸次枯死ヲ來スコトアリ、菌絲ハ褐色厚膜ニシテ隔膜ヲ有シ錯綜シテ層ヲ作ル若キモノハ無色ナリ層ノ表面ニ近キ細キ菌絲上ニ無色球狀ノ前擔子柄ヲ形成ス其大サ九－一二×七－一二μアリ基部ニ短柄ヲ有ス殆ンド無柄乃至三μノ長サアリ前擔子柄ノ頂端ヨリ發芽狀ニ擔子柄ヲ抽出ス擔子柄ハ初メ圓柱狀直形ナルモ後著シク彎曲シ三個ノ隔膜ヲ生ジ大サ二四－四八×六－八、五μアリ其各細胞ヨリ各一個ノ小梗ヲ抽出ス小梗ハ單ニシテ多少彎曲シ一二－一五×三μアリ擔子胞子ハ鎌狀ニシテ無色單胞中央ニ一核ヲ有シ大サ二一－二五×四－五μアリ胞子發芽スル時ハ短カキ發芽管ノ頂ニ擔子胞子ト同形ナル小生子ヲ形成ス小生子ハ大サ一四－一七－三、五μアリ

Septobasidium Pedicellatum
菌ノ前擔子柄ヨリ擔子柄發育ノ狀并ニ擔子胎子及小生子
(Reichert 4×7a)



余頃日札幌ニ到リ談此事ニ及ビ宮部博士ノ厚意ニヨリテ農科大學腊葉標本室ニ保存セラレタル桑ノ膏藥病菌標本ヲ檢シタルニ堀正太郎氏ノ寄贈ニ係ル桑膏藥病菌中ニ二種ノ異レル菌類ヲ發見セリ卽チ一ハ *Helicobasidium Tuzuense* Miyabe. 菌ニシテ他ハ *Septobasidium pedicellatum* (Schw.) Pat. 菌ナリ卽チ我國ニハ *Helicobasidium Tanakae* 菌ノ外ニ *Septobasidium pedicellatum* 菌ノ存在ヲ確メタリ余ハ本年四月本誌第二十六卷第三百四號ニ記述シ我國ニ產シ普ク植物病理學書ニ揭載セラレタルモノハ *Septobasidium pedicellatum* (Schw.) Pat. 菌ニ非ズシテ *Helicobasidium Tanakae* 菌ナルコトヲ述ベタリ今玆ニ桑膏藥病菌ニ宛テタル學名 (*Septobasidium pedicellatum* (Schw.) Pat.) ヲ有スル菌ヲ發見シタルニ際シ再ビ記シテ其學名採用ノ當否ヲ論ジ猶兩者ノ區別ヲ明カニセントス

桑膏藥病菌ハ田中延次郎氏ガ理科大學紀要第四卷(明治二十三年)ニ桑紫紋羽病菌ト共ニ記述シタルヲ創トス而シテ氏ハ之レヲ紫紋羽病菌 (*Helicobasidium Mompa* Tanaka.) ト同物ナラザルカノ疑ヲ懷ケリ其記載ノ大要ヲ記スルニ桑ノ古木ノ幹枝上ニ圓狀紫褐色ノ約一－十七、メ、ノ擔子體ヲ形成シ桑ノ紋羽病菌ノ若キ擔子體ニ類似シ菌

植物學雜誌第二十六卷　第三百十號　大正元年十月二十日

再ビ桑膏藥病菌ニ就テ

澤田兼吉

Sawada, K.: — On the "Kôyaku-byô" of the Mulberry-tree.

明治四十五年三月中村辰治氏ハ臺灣桃園廳管內蠶業視察ノ際野生桑ノ枝上ニ一種ノ地衣的附着物ヲ發見シ採集シ來レルヲ得又同年同月余ハ臺北廳內ニ於テ桑樹ノ幹枝上ニ同樣ノモノ一面ニ附着セルヲ發見セリ其有樣恰モ粘土ヲ平カニ幹上ニ塗リ付ケタル如キ色彩及外觀ヲ呈ス

一種ノ膏藥病菌ナランコトヲ豫想シ檢シタルニ菌絲ノ錯綜セル一層ニシテ其表面ニ近キ細キ菌絲上ニ球狀無色ノ胞子狀ノ物體ヲ發見セリ更ニ濕室中ニ置キ水濕ヲ與ヘ二日間放置シ後檢シタルニ多クノ鎌狀ノ胞子及球狀體ヨリ各々一個ノ彎曲セル囊狀體ノ抽出スルヲ發見セリ球狀體ハ卽チ前擔子柄(Probasidium)ニシテ囊狀體ハ卽チ擔子柄(Basidium)ナリ前擔子柄ノ發芽スルヤ太キ突起ヲ其頂端ヨリ抽出シ漸次延長シ直立スルモ成育スルニ從ヒテ著シク彎曲シ三個ノ隔膜ヲ生ジ其各室ヨリ各一個ノ小梗(Sterigma)ヲ抽出シ其頂ニ擔子胞子ヲ形成スル順序ヲ明カニ檢シ得タリ其形態恰モ DELACROIX et MAUBLANC 氏著 Maladies Parasitaires des Plantes Cultivées 第百十七頁ニ現ハレタル *Septobasidium pedicellatum* (Schw.) Pat. 菌ノ圖ニ酷似ス更ニ SACCARDO 氏著 Sylloge Fungorum 第十一卷ニ現ハレタル記文ヲ見ルニ記事單簡ニシテ其大サ等記スルコトナキモ DELACROIX et MAUBLANC 氏ノ圖ト一致シ猶余等ノモノト符合ス余ガ觀察セル儘茲ニ記載ヲ試ムレバ

桑樹ノ枝幹上ニ圓狀ニ擴ガリ大抵二乃至七セ、メ、アリ多數發生スル時ハ四十セ、メ、ノ所全ク卷キ付ケラル、コトアリ帶褐白茶色ニシテ粘土ヲ塗リ付ケタル觀アリ緣邊淡色增大スルニ從ヒ中央部焦色トナリ龜裂ヲ生ジ最モ

ハ該莖ノ組織ニ如何ナル變化ヲ生ズルヤ

(15) 風害ヲ受ケタル樹木ノ症狀幷ニ其ノ枯死ノ原因ヲ問フ

(16)(17) 接木雜種ノ特徵幷ニ其ノ形成法ヲ記セ

天然記念物ノ意義幷ニ其ノ實例ヲ問フ

右三時間

注意第二種學校教員志願者ハ※印第七第十二第十四問ニ答フルヲ要セズ

◎雜報

○武田久吉氏ノ任命

本會々員武田久吉氏ハ久シク英國ニ留學中ナリシガ今回英京ロンドン理工科大學植物學講師 (Demonstrator in Botany, at the Imperial College of Science and Technology, London) ニ任命セラレタリ

正誤　二七六頁三行目ノセモン (Semon) ハセン (Senn) ノ誤リナリ

◎東京植物學會錄事

○退會

吉田信　中月たき　高椋悌吉
諸橋眞一郎　塙福壽　稻垣千代吉
松南千壽　滋賀莊三郎　藏知矩
久保田運統　小山內孝九郎　三木馨
土居定雄　築山與傳

○轉居

東京市牛込區白銀町二十番地　麻生慶次郎
同　小石川區原町十三番地　岡村周諦
同　小石川區原町八十七番地淺野庄藏方　松田定久
同　日本橋區本所三丁目三番地　守田豐藏
同　小石川區原町六十一番地　牧野富太郎

會員藤井芳夫氏ハ大正元年八月十二日死去セラレタリ因テ特ニ之ヲ記シ會員諸君ニ報ジ且追悼ノ意ヲ表ス

東京植物學會

(b)葉ハ全部白色ニシテ、綠色ノモノトノ間ノ雜種ハ第一代目ニ於テ白ト綠ノ模細工(モザイク)狀トナリ生長點ノ白色ノ所ニ起原ヲ發スル枝ハ其ノ枝全部白色トナリ生長點ノ綠色ノ所ニ起原ヲ發スル枝ハ其ノ枝全部綠色トナリ生長點ノ白ト綠ノ兩方ニ跨リタル所ニ其ノ起原ヲ發スル枝ハ枝ノ片側ハ白色片側ハ綠色ノモノトナル、又時トシテハ表皮ハ白色ニシテ內部ハ綠色若シクハ其ノ反對ノ場合ノ生ズル事アリ、從テ子孫ハ枝ノ種類ニヨリテ一樣ナラズ白色ノ枝ヨリハ白色ノ子孫ヲ生ジ綠色ノ枝ヨリハ綠色ノ子孫ヲ生ズ、要スルニ生殖細胞ヲ生成シタル組織ノ白ナルカ綠ナルカニヨリテ子孫ハ色々トナル理ナリ、

以上ハ今日迄ニ知ラレタル遺傳性斑葉ノ種類ナルガ決シテ遺傳性ノ斑葉ハコレニ盡キタル譯ニハアラザルベク今後研究ノ進ムニ從ヒ幾多ノ新實例ヲ見ル事ナルベシト思考セラル、

○第二十六回文部省植物科教員檢定豫備試驗問題、（大正元年八月十五日施行）

(1)國俗秋ノ七種ト稱スル植物ノ種類ヲ擧ゲヨ
(2)本邦ニ於テハ如何ナル樹木ガ最長壽ヲ保ツカ
(3)海邊ニ產スル常綠闊葉樹五種ノ名ヲ問フ
(4)扁柏ノ材質ト欅ノ材質トハ如何ニシテ識別シ得ルカ
(5)甘藷ト馬鈴薯ノ原產地ヲ問フ
(6)食用トナルベキ海藻類五種ノ名ヲ問フ
※(7)薔薇科中ノ四大別ハ如何
(8)或ル植物ノ葉序ガ8/21ヲ以テ表示セラルト云フ、此ノ分數ノ意義ヲ簡單ニ說明セヨ
(9)中等普通敎育程度ノ學校ニテ普通ノ菌絲及ビ「バクテリア」ヲ顯微鏡ニテ生徒ニ示スニ適當ト認ムル廓大度ヲ問フ

但シ廓大度ニテ答フルモ所用「レンズ」ノ種類名稱ニテ答フルモ答案者ノ隨意トス

(10)高等植物ノ生材料又ハ酒精材料ヨリ手切薄切片ヲ製シ得タルトキ是ヲ「カナダバルサム」ニ封ジテ耐久「プレパラト」トナスマデノ手順ヲ列記セヨ
(11)前ノ地質時代ニ繁茂シテ今ハ全ク絕滅ニ歸シタル植物多シ彼等ノ絕滅シタル原因ハ如何
※(12)花粉(胞子)形成ノ際ニ同一母細胞ヨリ生ジタル四個ノ花粉ガ各自ニ具有スベキ遺傳的性質ノ異同ヲ問フ
(13)不等葉及ビ偏傾葉ノ形態實例幷ニ其成生ノ原因ヲ問フ
※(14)若キ草莖ヲ橫臥セシメ其ノ背地的屈曲ヲ妨グルトキ

○遺傳性斑葉

田原正人

本文ハ Indukive Abstammungs-und Vererbungslehre IV. ニ掲載セラレタル バウル氏著Untersuchungen über die Vererbung von Chromatophorenmerkmaren bei *Melandrium*, *Antirhinum* und *Aquilegia*. ノ終リニ附加セラレタル遺傳性斑葉ノ綜合的抄錄ヲ基トシテ記シタルモノナリ、

斑葉ニモ種々ナル特性ヲ有スルモノアリ、玆ニ記サントスルハ其ノ性質ヲ遺傳スル斑葉ナリ。

A **メンデル氏法則ニ從フモノ**

(a)葉ハ全部白色ヲ呈シ綠色ノ葉ヲ有スル普通種トノ間ノ雜種ハ、第一代目ニ於テ全部綠色、第二代目ニ於テ綠色三白色一ノ割合ニ分裂ス、(例、*Antirrhinum*, *Melandrium*)

(b)葉ハ全部黃色ヲ呈シ、綠色ノモノトノ間ノ雜種ハ第一代目ニ於テ葉ハ全部黃綠色トナリ第二代目ニ於テ綠色ノモノ四分ノ一(コレハ以後分裂スル事ナシ)黃綠色ノモノ四分ノ二(コレハ以後又分裂ス)黃色ノモノ四分ノ一(コレハ以後分裂スル事ナシ)ニ分裂ス(例 *Pelargonium*)

(c)葉綠粒內ニ含有サレタル色素ノ量通常ノモノヨリ少ナク從テ葉ハ薄綠色ヲ呈ス、通常種トノ間ノ雜種ハ第一代目ニ於テ綠色ノモノトナリ第二代目ニ於テ綠色ノモノ三薄綠色ノモノ一トニ分裂ス(例 *Mirabilis*, *Urtica*, *Antirrhinum*)

(d)cニ記シタルガ如キ薄綠色若シクハ一層白色ニ近キ地ニ綠色ノ斑紋アルモノニシテ、綠色ノモノトノ雜種ハ第一代目ニ於テ全部綠色トナリ第二代目ニ於テ綠色ノモノ三斑入ノモノ一ノ割合ニ分裂ス(例 *Mirabilis*, *Aquilegia*.)

(e)緣邊白色ヲ呈シ他ハ普通種ノ如ク綠色ヲ呈スルモノニシテ、綠色ノモノトノ雜種ハ第一代目ニ於テ全部綠色ノモノノミトナリ第二代目ニ於テ綠色ノモノ三葉ノ全部白色ノモノ一ノ割合ニ分裂ス(例 *Lunaria*)

B **メンデル氏法則ニ從ハザルモノ**

(a)不規則ノ白ノ斑紋ヲ有シ間々葉ノ全部ガ黃白色或ハ綠色ヲナセル枝ノ生ズル事アリ、此ノ種類ノ特徵ハ其ノ性質母ニヨリテノミ傳ハルノ一事ニシテ本種ト普通ノ綠色種トノ間ノ雜種ハ本種ヲ母ト綠色種ヲ父トセル時ニノミ其ノ子孫ニ斑葉的性質遺傳シ其ノ反對ノ場合卽チ本種ノ花粉ヲ以テ綠色種ノ花ヲ受胎セシメテ生ジタル子孫ハ總テ純粹ニ綠色種ノミニシテ毫モ斑葉的性質ノ遺傳ヲ見ル事能ハザルナリ、本種ノ綠色ノ葉ノミヲツケタル枝ノ花ヨリ出來タル種子ハ葉ノ全部ガ綠色ナル子孫ヲ生ジ葉ノ全部ガ黃白色ナル枝ニ生ジタル種子ハ葉ノ全部ガ黃白色ナル子孫ヲ生ジ唯斑入ノ葉ヲツケタル枝ニ生ジタル種子ハ其子孫ニ三通ノ區別ヲ生ズ三通トハ斑入、黃白色、綠色ノ葉ヲツケタル三通ニシテ數ノ割合ハ一定ナラズ

(例 *Mirabilis jalapa albomaculata*)

種ニシテ隨所之ヲ生ズ而シテ其葉ノ變態ニ三アリテ偶マ之ヲ見ル就中其二ハ生長旺盛ノ枝上ニ見ルベシト雖ドモ其一ハ之ニ反シテ枝末ニ見ル前ノ二ハ其ヲシテ敢テ本品ノ變種タラシムルニ足ラズト雖ドモ後ノ一ハ然ラズ卽チ第一者ハ其葉ニ出ノ常態ヲ超エテ掌狀トナリ其側生葉ノ兩側ニ接シテ更ニ小葉ヲ發出ス、第二者ハ其中央小葉三出トナリ下ニ對生セル側生ノ小葉ヲ併セテ此ニ其全葉ハ五小葉ヲ以テ成リタル羽狀葉トナル、第三者ハ三小葉融合シテ一ノ單葉トナル此品ハ明治四十四年八月吉永虎馬君ノ土佐國吾川郡五在所山ニ採ル所ニシテ其株ノ梢葉皆單葉トナリ其邊一帶ニ產スルモノ皆此ノ如キ狀態ヲ呈ス卽チ一變種トナスベキ價値アルモノニシテ予ハ之ヲ Var. Yoshinagae Makino. トナサント欲ス

○たがねさう幷ニささのはすげ

牧野富太郎

すげ屬 (Carex) ニたがねさうアリ一名ささすげ又やまおばこ、ぎゃうじゃさうト云フ本邦產中ノ同屬中其葉最モ闊キモノニシテ一見すげノ屬ニアラザルガ如キ狀貌ヲ呈セリたがねさうハ其葉ノ鍛工ノ使用スル鞴ノ外形ニ類似スルヨリ起レリ而シテ高嶺草ノ意ニ非ラズ葉ノ表裏ニ毛ナクタゞ緣毛アリ花柱極メテ長シ

一種極メテ相肖テ非ナルモノアリささのはすげト云フ葉ノ裏面ニ毛ヲ散生シ上面ニハ極メテ疎ナリ花柱極メテ短キヲ以テ容易ニ前種ト區別スルヲ得ベシ此種近畿ノ地ニ鮮ナカラズ

甲種ノ學名ハ Carex siderosticta Hance. ニシテ乙種ハ C. pachygyna Franch. et Sav. ナリ

○つきぬきさう

牧野富太郎

梯南洋ノ補正セル重修本草綱目啓蒙卷十二獨用將軍ノ條下ニ

〔補〕天保十四癸卯歲始テ京師ニ來ル東國ノ產ナリ圓莖ニシテ高サ四五尺ニモ及ブ葉莖ニ兩對ス長サ三四寸幅二寸餘天名精（ヤブタバコ）ノ葉ニ似テ微シク薄クシテ末尖リ面背及莖共ニ毛茸アリテ甚糙澁スソノ莖ニ對スルトコロ闊サ五七分兩葉相連テ一葉ノ如ク莖ソノ正中ヲ穿チ抽スルコト衆草ニ異ナリ夏月莖葉間ニ各一花ヅヽ直チニ附著ス烟草ノ花ニ似テ黃色花後實ヲ結ブ大サ四五分圓長ニシテ末尖リ內ニ子アリ根ハ白ク鬚多シ

是ニ由テ之ヲ觀レバつきぬきさうノ當時京都ニ入リ來リシハ天保十四年ナルコト知ルベシ而シテ今信州ノ地ニ產スルヲ知ル是レ今日吾人ニ知ラレタル吾邦唯一ノ產地ナレバ前文中東國トアルハ蓋シ原ト此地方ヨリ出デシモノヲ東國ヨリ來リシモノト誤想セシナラン乎

又漢書ニテハ備急本草濠州紫參ノ圖ニ略似タリ三才圖會ニモ紫參ニ此圖アリ又此草八種畫譜轉枝牡丹トス非ナリ轉枝牡丹ハ八重ノひるがほナリ（然レドモ和邦未ダ八重ヒルガホヲ見ズ）按ルニ畿輔通志云轉枝蓮粉紅色植者高架引之盤曲而上亦頗爛熳朝城縣志云轉枝蓮

是ハ天竺牡丹ニ近シ今　單葉粉紅　單葉縞　單葉黃　重葉殷紅　トアリ

之レニ據レバ天竺牡丹ノ名ハ此書ノ時代ニ已ニ生ゼシモノト見ユ而シテ天竺牡丹ハ本草通串證圖ノ圖ニヨレバ第一ニ Dahlia variabilis Desf. 渡來シ次ニ Dahlia coccinea Cav. 舶載セリ予ハ此種ヲ明治初年ニ土佐高岡郡佐川村ニ見タリ綠葉赤花今尙記憶ニ新ナリ今日ニ至ルモ尙和名ナシ由テ之ヲひぐるまてんぢくぼたん（新稱）ト云フ卽チ絆車天竺牡丹ノ意ナリ共ニ「メキシコ」國ノ原產ナリ

○えきさいぜり

牧野富太郎

えきさいぜりハ益齋片ノ意ナリ益齋ハ越中富山侯ノ號ナリ同侯ノ稿本「信筆鳩識」中ノ一冊ハ西新井採藥記ナリ時ニ嘉永元戊申年四月ナリ書中ノ圖ハ關根雲停ノ描ク所中ニ一ノ纖形科植物アリ本品ノ世ニ著ハル、始ノ圖ハ卽チ是ナリ而シテ此ノ如ク始メテ之ヲ畫カシメシハ富山侯ナリ故ニ予ハ先ニ其紀念名ヲ製シテ之ヲえきさいぜりト稱セリ拙著日本植物志圖篇之レガ精圖ヲ載ス就テ見ルベシ

○くろうすごノ初生葉

牧野富太郎

くろうすご（Vaccinium ovaliforium Sm.）ハしゃくなげ科中ノ一種ニシテ我邦中部以北ノ深山中ニ生ズル落葉ノ小灌木ナリ枝極ニ稜アリ葉ハ廣橢圓形ニシテ葉柄極メテ短ク全邊（一變種ニ細鋸齒アルモノアリ予之ヲ陸中栗駒山ニ得、なんぶくろうすごト新稱ス）ニシテ毛ナク細脈ノ網狀ヲ呈スルノ狀著シカラズ

此種稚本高サ三五寸ノモノハ其葉狀著シク成木ノモノト異ニシテ恰モ別種ノ觀アリ邃視者瞥見者ニハ同科中ノはりがねかづら（Chiogenes hispidula Torr. et Gray.）ト誤認スルコトアリ卽チ其枝極纖細ニシテ鐵線狀ヲナシ葉ハ小形ニシテ長サ三乃至十五「ミリメートル」、幅二半乃至十二「ミリメートル」、許アリ尙漸次ニ大形トナリ遂ニ成葉ノ域ニ達ス質硬ク薄クシテ葉緣ニ細齒ヲ刻ミ細脈ノ網狀ヲナスコト成葉ヨリ著ルシ稍ヤ生長セル株ニアリテハ梢ニ尋常葉ヲ出シ下部ニ初生葉アリテ兩樣ノ葉ヲ一株上ニ望ムヲ得ベシ、明治三十八年八月之ヲ陸中早池峯ノ山中ニ得

○なはしろいちごノ葉ノ變態

牧野富太郎

なはしろいちご（Rubus trilobyllus Thunb.）ハいちごノ一

んにんさうトナス卽チ Clematis ovatifolia Iro, ハたにもだまニ非ズシテきいせんにんさうナリ

○ほていらん

牧野富太郎

越中富山侯前田利保氏（益齋ト號ス又萬香亭或ハ自知春館或ハ辨物舍ト稱ス）ノ編ニ「信筆鳩識」數冊アリ中ニ消日錄ノ手錄アリ卽チ嘉永元戊申年ニ記シタルモノナリ錄中ほていらんノ記事アリ六月十日ノ稿ニ係ル卽チほていらんノ名稱ノ元幷ニ當時ノ狀ヲ察スルニ足ル乃チ左ニ抄セン

布袋ラン

當夏ノ始花戶長太郎ヨリ一蘭種ヲ出ス其葉圓葉ホクロニ似テ尖隨一葉雲頭邊二道紫ヲ帶ブ葉面頗皺アリ蕾茶袍一二寸背ハ紫赤色一葉ヅヽ地上ニ生ジ其旁一莖ヲ突出ス茶袍ニ同色ノ苞アリ二三包莖ヲ抱クコト蘭類ト同ジ包中ヨリ七八寸斗褐紅ノ一莖挺出シ上ニ小包一片其上ニ一花アリ五瓣萼ノ如ク淡紅色頗蟠曲ス其下ニ垂ル一瓣圓長ニシテ蘭心ノ如ク一寸斗豐レテ先尖リ曲ル白質淡黑點多シ布袋草ノ袋ノ如ク半片裂（サク）テ黃藥ヲ吐ク甚異體ナリ四五月開花ノ形ヲ以テ布袋蘭ト名ク

此記事ニヨレバほていらんノ和名ハ富山侯ノ下セシモノ歟、ほていらんハ大日本植物志第一卷第四集ニ精細ナル圖說アリ就テ看ルベシ

○のーぜはーれん

牧野富太郎

同書ニ云

蔓延荷葉ノ蕾ハ未ダ古來舶來ナシ近年阿蘭人持渡長崎商人戲レニ蘭語ヲ僞作シテノーゼハーレント云艸當レリ花凌霄ニ似タレバノーゼ也葉蓮ニ似タレバハーレント云蘭語ニ相似タリ故ニ如此號ケテ武江ニ傳フ物印曼寫眞トロパーヲルュム。マユス也本草ヲ按ルニ當物ナシ備急本草臨江軍白藥ノ圖相似タリ恐ラクハ是耶云云

之レニ據レバのうぜんはーれんノ名ハ長崎ニテ製セシト見ユ

○天竺牡丹

牧野富太郎

同書ニ云

筆談ニハ黃藥ハ卽黃藥子ニシテ皇和未ダ生植ノ者ヲ見ズ和蘭書物印曼寫眞ノコスチュス、アラビキュス則黃藥子ナル由云傳フ其形狀一莖直上葉ハ蒴藿ノ如ク肥大ナル一柄五葉ノ葉互生ス花實ナシ根ハ塊ヲナシテ黃褐色也此草未ダ舶來ナシ萬香竊ニ考ルニ近來舶來シテ武江ニ行ハル天竺牡丹根塊ヲナシ天門冬ノ如ク大ナリ其形狀頗ル物印曼ノコスチュス、アラビキュスニ相似タリ恐ラクハ是カ

（所屬）同上。

菌傘ハ無柄ニシテ重生シ、薄クシテ肉質ヲ帶ビ、柔靭ナリ、半圓形ヲ爲シ、或ハ橫ニ長ク擴ガリ、屈曲ス、長徑二・五乃至六「センチメートル」、短徑一・五乃至二・五「センチメートル」アリ、表面ハ白クシテ、絹樣ノ密毛ヲ被ムリ、白キ實質ヲ有ス、裏面ハ赤黃色或ハ赤色ニシテ、菌管ノ孔ハ小サク、多角形ヲ呈ス、群馬縣勢多郡、芳賀村ニ產ス、角田金五郎氏ノ採集ニ係ル。

○あしぐろたけ(新稱)

Polyporus Varius(Pers.) Fries.

（所屬）同上。

子實體ハ漏斗狀ヲナシ、柄ヲ具フ、菌傘ハ五「センチメートル」內外ノ直徑ヲ有シ、大ナル切込ヲ具フ、肉質、柔靭ニシテ薄ク、表面ハ平滑ニシテ、微弱ナル放射狀ノ條線ヲ有シ、黃褐色ヲ呈ス、裏面ハ黃褐色ニシテ、菌管ハ短ク、管口ハ頗ル小サクシテ圓シ、菌柄ハ長サ一・五「センチメートル」內外ニシテ、多少偏在シ、灰黑色ヲ帶ブ、上州赤城山ニ產ス、角田金五郎氏ノ採集ニ係ル。

正誤　本誌第三百八號、二百六十二頁、菌類雜記(九)中、**しはちちやわんたけ**トアルハ、**しはちやわんたけ**ノ誤リ

○たにもだま幷にきいせんにん

さう(新稱)

牧野富太郎

南海道紀伊ノ國特ニせんにんさう屬ノ一種ヲ產ス卽チ Clematis ovatifolia Iro. 是ナリ此種今日たにもだまノ和名ニヨリテ呼バルト雖ドモ松田定久君ノ說話ニヨレバ此和名妥當ナラズ乃チ同君ノ說ク所ニ從ヒ紀州畔田翠嶽著ノ熊野物產初志第一卷ヲ繙キ書中記スル所ノ谷もだまノ記文ヲ見ルニ果シテ松田君ノ言ノ如ク其品ハ正ニ今日言フ所ノうどかづら卽チぶだう科中ノ Ampelopsis leeoides Planch. ナリ此谷もだまノ稱呼ハ畔田氏所命ノ新稱乎或ハ其土ノ方言乎予ハ今之ヲ詳ニスルコト能ハズト雖ドモ其ノ書ノ記文ニヨレバ正ニうどかづらナルコト明カナリ（同書又別ニうどかづらアリ）而シテ此谷もだまノ名ヲ取テ之ヲ彼ノ Clematis 屬ノ一種ニ充テシハ當時ノ博物局員ニシテ蓋シ小野職愨氏ナラン乎卽チ同氏ハ同局員田中房種、田代安定、中島仰山幷ニ織田信福諸氏ト共ニ明治十年五月伊勢、紀伊ノ兩州ニ採リテ其幼本ノ葉ヲ採集シ之ヲ同氏編スル所ノ勢紀植物圖說ニ載セテ之ヲたにもだまトシ此ニ『紀州新宮ノ邊山腰北面ノ地又古座ノ東大島ノ內又妙法山近傍ニ產ス』ノ文ヲ伴ヘリ是レ蓋シ其花ナキ三出ノ葉ニ見テ之ヲ畔田氏記スル所ノ谷もだまニ充テ以テ始メテ此品ニ其名ヲ呼ブヲ致セシモノナラン已ニ此品ノ谷もだまニ非ザルヲ知レバ則チ別ニ之レガ稱呼ナカルベカラズ乃チ松田君ト相議シ此ニ新ニ呼ンデ之ヲきいせ

Fomes applanatus (Pers.) Wallr.

（所屬）基菌門、眞正基菌亞門、同節基菌區、軟菌亞區、さるのこしかけ科、さるのこしかけ亞科。

菌傘ハ無柄ニシテ、半圓狀ヲ爲シ、兩面扁平ニシテ硬シ、大サハ長徑一〇乃至一七「センチメートル」、短徑八乃至一二「センチメートル」ヲ普通トスレドモ、時ニハ頗ル大ナルモノアリ、表面ハ平滑ニシテ、全面ニ褐色ノ粉末ヲ被ムリ、粉末擦レ落ツレバ、灰白ノ基色ヲ曝露ス、求心的ノ輪層アリ、實質ハ頗ル軟クシテ、褐色ヲ呈ス、菌管ノ孔ハ極メテ小サク、孔緣白色ヲ帶ビ、後ニ銹色ニ變ズ、菌傘ノ表面ニハ、往々褐色連鎖子ノ發生ヲ見ル、明治四十三年七月、栃木縣下鬼怒川上流沿岸ノ倒木上ニ於テ採集セリ、又群馬、愛知諸縣ニ產ス。

○ほうろくたけ（新稱）

Trametes Dickinsii(Berk.)

（所屬）同上。

菌傘ハ無柄ニシテ、半圓形或ハ楔形ヲ爲シ、扁平ニシテ栓質ヲ帶ブ、長徑五乃至一五「センチメートル」、短徑三乃至九「センチメートル」アリ、表面ハ淡灰褐色ヲ呈シ、平滑ニシテ輪層ヲ具フ、實質ハ淡褐色ナリ、裏面ハ淡褐色ヲ呈シ、菌管ノ孔ハ大キクシテ、多角形ヲ爲ス、本種ハ本邦ノ特產ニシテ、仙臺林地ノ切株上ニ生ジ、又群馬、長野、新潟諸縣ニ產ス。

○ぎのめたけ（新稱）

Lenzites styracina (Henn. et Shir.)＝**Daedalea styracina** Henn. et Shir.)

（所屬）同上。

菌傘ハ無柄ニシテ、半圓形ヲ爲シ、重生ス、長徑二乃至四「センチメートル」、短徑一乃至二「センチメートル」アリ、表面ハ赤褐色或ハ黑褐色ニシテ、輪層ヲ具ヘ、平滑ナリ、裏面ハ灰色ヲ呈シ、菌褶ハ距離頗ル廣クシテ、菌傘ノ表ガ基物面ニ、平タク癒著シテ發達セル場合ニハ、往々迷路狀ヲ爲ス、岩手、新潟、群馬諸縣ニ產シ、えごのきノ枝上ニ生ズ。

○べつこうたけ（新稱）

Polyporus semilaccatus Berk.

（所屬）同上。

菌傘ハ無柄ニシテ、半圓形ヲ爲シ、重生ス、扁平ニシテ栓質ヲ帶ブ、長徑六乃至一二「センチメートル」、短徑四乃至九「センチメートル」アリ、表面ハ平滑ニシテ、著シカラザル輪層ヲ具ヘ、內半ハ赤褐色、外半ハ黃褐色ヲ呈ス、實質ハ綿樣ニシテ、淡褐色ヲ帶ブ、裏面ハ黃褐色ニシテ、菌管ノ孔ハ小サク、多角形ヲ爲ス、仙臺ニ於ケルさくらノ幹上ニ生ズ、又愛知、新潟諸縣ニ產ス。

○うらべにたけ（新稱）.

Polyporus amorphus Fries.

3. C. supradecompositus (Linde.) Sr.
4. Marchantia planipora Sr.
5. Mastigobryum albicans Sr.
6. M. Pompeanum (S. Lac.) Sr.
7. Pallavicinia longispina Sr.
8. Pellia epiphylla (L.) Dum.

以上蘚苔兩類ヲ合シテ四十一種、二變種ハ、同ヨリ本島所産ノ蘚苔類ヲ盡シタルモノニ非ズシテ、今後尚新ナル採集ヲ以テ增補セラルベキコト信ジテ疑ハザル所ナリ。本島所産ノ蘚類ヲ四國九州地方ノ所産ニ比スルニ、四國九州ニ於テ稍々高キ山地ニ生ズルモノモ、尙能ク其ノ彼レヨリモ低キ彌山ノ頂上附近ニ産スルハ實ニ意外トスル所ナリ。

余ハ本島ニ於テ主トシテ蘚苔類ヲ採集シタリト雖モ、同時ニ殊ニ其ノ所産ノ木本及羊齒類ニツキテ注意シ、見ル所一々之ヲ記シテ備忘トシタリキ。今茲ニ蘚苔類目錄ヲ記スルニ當リテ序ニ之ヲ記シ、聊カ以テ本島フロラ研究ノ資ニ供セントス。

木本類。

(花)トセルモノハ當時開花セルモノナリ。

うらじろがし。あらかし。とが。あせび。はまごう(花)。こあかそ。あかめがしは。もみ。はまくさぎ。こならかんこのき(花)。しきみ。むらさきしきぶ。みゝずばい。しろだも。くす。やぶにつけい。さかき。やまつつじ。むくえのき。かしをしみ。あかまつ。はぜのき。はぎ。さかきかづら(花)。ありどうし。たまつばき。たらのき。すぎ。ねず。うりはだかへで。まさきかづら。そよご。さるとりいばら。つばき。ふしのき。こばのがまづみ。もみぢいちご。やまもも。りやうぶ。いぶきしもつけ。ひさかき。うしころし。くまやなぎ。にがいちご。つた。ひのきばやどりぎ(つばきニ寄生セリ)。みつばあけび。のぶだう。じやけついばら。かなめもち。やぶむらさき。あをたご。こつくばねうつぎ。くさぎ。いたびかづら。もつこく。またたび。やぶむらさき。こじきいちご。ふゆいちご。いはがらみ(花)。ていかかづら。のいばら。いぬがや。つりばねがし。いたびかづら。むくえのき。もちのき。あかがし。みづき。等

羊齒類。石松類。

かうやこけしのぶ。きじのをしだ。べにしだ。ねので。ひめわらび。はしごしだ。のきしのぶ。ひめのきしのぶ。びろうどしだ。ししがしら。ほそばこけしのぶ。こしだ。うらじろ。ひとつば。ししらん。せんまい。みやまのきしのぶ。いはひば。かたひば。等

○菌類雜記(一〇)

安田篤

○こふきたけ(新稱)

フヲ得ベシ。今夏廣島高等師範作勤白神壽吉氏ガ同島ニ採集シタル標品ヲ檢スルニ當リテ曾游ヲ想起シ玆ニ氏ノテ同好ノ採集ニ便ニセントス。＊印ノモノハ本島産トシテハ注意スベキ種ナリトス。

蘚　類

1. Aërobryopsis assimilis (Card.) Broth.
2. Bartramia crispata Schimp.
3. Dicranum japonicum Mitt.
4. D. nipponense Besch.
5. ＊Dozya japonica Lac.
6. Fissidens cristatus Wils.
7. ＊Grimmia pilifera Palis.
8. Herpetineuron Toccoae (Sull. et Lesq.) Card.
9. ＊Homaliadendoron scalpellifolium (Mitt.) Fleisch.
10. Hylocomium cavifolium S. Lac.
11. ＊Isothecium subdiversiforme Broth.
12. Leucobryum scabrum S. Lac.
13. Meteorium helminthocladum (C. Müll.) Fleisch.
14. Mnium trichomanes Mitt.
15. M. speciosum Mitt.
16. M. microphyllum Doz. et Molk.
17. Macromitrium gymnostomum Sull. et Lesq.
18. M. incurvum Lindb.
19. ＊Oedicladium sinicum Mitt.
20. Oncophorus crispifolius (Mitt.) Mitt.
21. Pogonatum inflexum Lindb.
22. Polytrichum attenuatum Menz.
23. P. commune L.
24. Pilotrickopsis dentata (Mitt.) Besch.
25. ＊Pterobryum arbuscula Mitt.
26. Plagiothecium nemorale (Mitt.) Geag.
27. Rhacomitrium canescens (Weis, Timm.) Brid.
28. ＊Schlotheimia japonica Besch et Card.
29. Sphagnum cymbifolium (Ehrh.) Warnst.
30. S. cymbifolium (Ehrh.) Warnst. var. pallescens Warnst.
31. S. cymb. var. virescens Russ. form. squarrosula (Br. Germ.)
32. Stereodon Oldhami Mitt.
33. S. plumaeformis (Wils.) Mitt.
34. Thuidium glaucinum (Mitt.) Broth.
35. T. japonicum Doz. et Molk.

苔　類

1. Anthoceros communis St.
2. Conocephalus conicus (L.) Dum.

バ可ナリトス）ヲ取リ、其ノ間ニ材料ヲ封ズルコト、通常「スライド」ト「デッキ」トノ間ニ封ズルガ如キ方法ヲ以テス。次ニ又粘性彈性共ニ強キ「ボール」紙《厚サ一乃至二「ミリ」ヲ適當トス。》ヲ取リテ、其ノ中央ニ「デッキ」ヨリモ稍小形ナル方形又ハ任意ノ孔ヲ穿ツコト第二圖ニ示スガ如クス。斯カル紙片ハ一「プレパラート」ヲ製作スルニ二枚ヲ用意スルヲ要ス。以上ノ二裝置ノ製作ヲ了リタル時ハ、二枚ノ「デッキ」ノ間ニ材料ヲ封ジタル裝置ヲ取リテ、二枚ノ穿孔セル「ボール」紙片ノ間ニ挾ミ、兩紙片ハ「アラビヤゴム」ノ濃厚液ヲ以テ粘著セシメ、其ノ乾燥固著スル時ヲ以テ、此ノ方圓式永久的「プレパラート」ノ製作ヲ完了セル時トナスベシ。斯クシテ製作シタル「プレパラート」ハ其ノ全部ヲ反轉スルトキハ、自由ニ表裏ヲ窺ヒ得ベク、甚便利ナルコト、到底普通ノ「プレパラート」ノ比ニ非ラザルベシ。

此ノ裝置ヲナセル「プレパラート」ハ、單ニ蘚苔類ノ研究ニノミ止マラズシテ、廣ク動植物ノ研究ニ於テ顯微鏡ヲ使用スル場合ニモ應用スルコトヲ得ベク、下等ノ動植物ニ於ケル全體ノ「プレパラート」ノ製作、羊齒ノ扁平體、動植物ノ發生及核分裂等ノ「プレパラート」ノ製作ニ用ヒテ其ノ便多カルベク、表裏ヲ窺ヒ得ルノ便ニヨッテ、或ル材料ニアッテハ、多少其ノ物ノ立體的觀察ヲモナスコトヲ得ベシ。鏡檢材料ノ厚キニ過グルモノ、及藍芥等ノ附著シテ、其ノ一面ノ檢察ヲ妨グル場合ニ於テモ、表裏ノ反轉ニヨッテ能ク其ノ缺點ヲ補ヒ得ベシ。又コノ裝置ニヨレル「プレパラート」ハ幾枚ニテモ之ヲ重ネ合セ得ベク、其ノ保存ノ爲メニ特ニ枠（障子）ノ必要ヲ見ズ。又之ヲ取落シタル際ト雖モ、破損ノ患殆ドナシト云フベシ、余ハ嘗テ製作セルモノヲ机上ニ投ゲ付ケタルトキ、少シモ破損セザルヲ以テ見ルモ、其ノ取扱上、全部硝子製ノモノニ比シテ便ナルコト多大ナリト謂フベシ。或ル學生余ニ告ゲテ曰ク『三崎デくらげノ「プレパラート」ヲ造ッテ、口ノ方ヲ上ニ向ケテ下面ノ方ヲ見ル樣ニシヤウト思ッタ所ガ反對ニ向ケテアッタト見ヘテ、鏡下ニ見タ時ハガッカリ、折角造ッタモノモ役ニ立タヌモノトナッタト』、斯ノ如キ嘆聲ハ此ノ方圓式「プレパラート」ニアッテハ、夢想ダモシ得ベキモノニ非ザルベシ。油浸裝置ノ場合ニ於テモ不便ヲ感ズルナキハ實驗セル所ナリ。

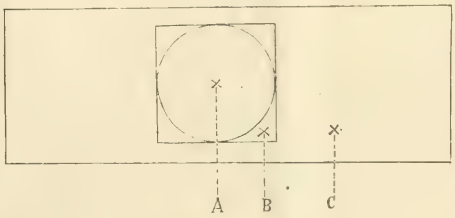
二三、宮島産ノ蘚苔類。

藝洲宮島ハ日本三景ノ一トシテ三尺ノ童子ト雖モ既ニ能ク知レル所ナリ。余嘗テ同島ニ游ビ、大元方面ヨリ彌山ノ頂ニ登リ、紅葉谷ノ奥ヲ探リ、前六時ヨリ後七時ニ至ル間主トシテ蘚苔類ヲ採集シタルコトアリキ。宮島ハ島トシテ大ナラズ、彌山ノ頂亦高カラズト雖モ、蘚苔類ノ種類ニ富ミ、珍品亦少シトセズ。

實ニ本島ハ廣島附近ニ於ケル蘚苔類ノ好採集地ナリト云

余ガ案出シタル方法ノ如キハ、或ハ先輩學者ニヨリテ既ニ試ミラレタルモノアルヤモ知ルベカラズト雖モ、未ダ其ノ發表セルモノアルヲ聞カズ、故ニ茲ニ其ノ裝置ノ方法ヲ述ベ、未ダ此ノ裝置ヲ知ラザル人々ニハ其ノ實驗ヲ請ヒ、一面ニ於テハ余ガ案出ヨリモ尙利便ナル考案ヲ有セラルル人ノ發表ヲ冀望セントス。

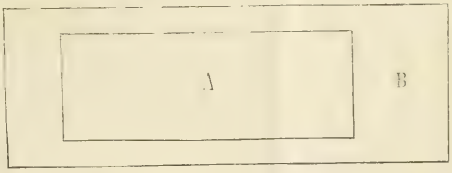
第一圖



A. 圓形「デツキグラス」
B. 方形「デツキグラス」
C. 「スライドグラス」

余ガ案出シタル此ノ裝置ニハ、方圓式「プレパラート」ト命名シタリキ。今其ノ裝置ヲ畧說スレバ、一枚ノ「スライド」ヲ取リテ机上ニ置キ、其ノ中央ニ少許ノ水ヲ滴下シ、其ノ上ニ方形ノ「デツキ」ヲ置キ、之ニ水ヲ加ヘテ鏡檢材料ヲ載セ、其ノ上ヲ圓形ノ「デツキ」ニテ被フヲ以テ事足レリトス。（第一圖）。余ガ案出シタル裝置ナルモノハ、斯カル簡便ナルモノナリト雖モ、其利便著シク、今斯クシテ裝置シタル「プレパラート」ニヨリテ、一側面例ヘバ表面ヲ觀察シ、後他ノ側面卽チ裏面ヲ見ント欲スル時ハ、材料ヲ挾ミタル二枚ノ「デツキ」ヲ其儘トリテ之ヲ反轉セバ、容易ニ其面ヲモ窺フコトヲ得ベシ。斯クシテ轉々何回タリト雖モ自由ニ表裏內外兩面ノ觀察ヲ恣ニスルコトヲ得ベク、普通ノ裝置ニ於テ、顯微鏡筒管ヲ上下セシメ、强テ燒點ノ調節ヲ求メ、其ノ見ント欲スル部分ヲ纔ニ不明了ニ見、隔靴搔痒ノ感アルニ比スレバ其利便幾何ゾヤ。此ノ裝置ニ於テ方圓異形ノ「デツキ」ヲ用フルハ、之レ其ノ間ニ挾ミタル材料ノ表裏ヲ一見シテ知リ得ルニ便ニセンガ爲メニシテ、余ハ常ニ材料ノ內面又ハ裏面ヲ方形、「デツキ」ニ向ハシメ、外面又ハ表面ヲ圓形「デツキ」ノ方ニ向ハシメ、以テ一見表裏ノ識別ニ便ニセリ、之レ方圓式「プレパラート」ノ名ヲ命ジタル所以ナリトス。

第二圖



A. 孔ヲ穿チタル所
B. 孔ヲ穿タザル部分

以上說述シタル裝置ハ、之レ一時ノ裝置ニシテ永久的ノ裝置ニ非ズ。余又永久的「プレパラート」ニ此ノ方圓式ヲ應用ヒント欲シテ更ニ其ノ一工夫ヲ案出シタリキ。今次ニ其ノ方法ヲ述ベントス。

大形ナル二枚ノ「デツキ」（コノ場合ハ方形圓形兩樣ヲ用ヒザルモ何レガ表面ナルヤ、裏面ナルヤヲ記臆シ置キ、全部製作結了ノ後、表裏ヲ「プレパラート」ニ記シ置カ

○蘚苔類雜錄（其一〇）

岡村周諦

二二、方圖式「プレパラート」裝置

蘚苔類ノ葉及ビ緣齒ノ構造ヲ研究スルニ際シテハ、常ニ其ノ表裏卽チ內外兩面ノ構造ヲ精密ニ觀察スルコトハ忽ニスベカラザルモノニシテ、內外兩面ニ於ケル構造ノ差異ハ分類上重要ナルコト甚ダ多シ。例ヘバみづごけノ葉ニアツテハ、表裏兩面ニ於テ現ハル孔ノ種類、多少、及ビ其ノ形狀等ハ種ノ識別ニ於テ必要ナル一條件トナリ、又一般蘚苔類ノ葉面ニ往々見ル所ノ乳頭ノ位置、形狀、及ビ其ノ數量ハ、表裏ニ於テ大ナル差違アルモノ多ク、是亦種ノ識別上看過スベカラザル場合少シトセズ。又緣齒ハ內外兩面ニ於テ構造ヲ異ニセルモノ甚ダ多クシテ、其ノ外面及ビ內面ノ構造ハ分類上甚ダ重要ナルモノニシテ、緣齒ヲ研究スルニ際シテハ充分之ヲ精査セザルベカラザルモノナリトス。是等ノ葉及緣齒ハ何レモ大抵一二層ノ細胞層ヨリ成リ、極メテ薄キモノナルヲ以テ、之ヲ顯微鏡下ニ窺フトキハ、表裏內外一時ニヨク觀察スルコトヲ得ベシト思考セラルベシト雖モ、實際之ヲ鏡檢スルニ當ツテハ、一面ノミ明了ニ見得ルモ、他面ハ「レンス」ノ燒點ヨク合セズシテ充分ニ之ヲ觀察シ得ルコト殆ドナシト云フベキナリ、殊ニ葉及緣齒ニ於ケル乳頭、及ビ緣齒內面ノ薄板、橫桁ノ配置、高低等ニ至テハ、必ズ其ノ之ヲ有スル面ヲ上面トシテ鏡檢セザルベカラズ。余ハ數年前此ノ表裏內外ノ兩面ヲ見ンガ爲メニハ、旣ニ裝置セル「プレパラート」ニ於テ、「デツキ」ヲ取リ除キ、材料ヲ反轉シ、更ニ「デツキ」ヲ蓋ヒテ再ビ他ノ一面ヲ鏡檢スルヲ以テ滿足シタリキ。然リト雖モ之レ甚ダ面倒ニシテ十數枚ノ葉ヲ封ジタル場合ニ於ケル如キハ、各個一々之ヲ反轉スルニ非常ナル時間ヲ空費シ、其ノ反轉亦意ニ滿タザルコト多キヲ以テ、常ニ之ヲ遺憾トシ、成可ク簡便ニ表裏兩面ヲ一「プレパラート」ニテ見得ル便法ヲ案出セント欲シタリキ。斯カル「プレパラート」ハ如何ナル研究ニ於テモ必要ナルモノナルベク、斯カル冀望ハ常ニ先輩學者ニ於テモ其ノ感ヲ同ジクシタルコトアリシモノナルベシ、サレバ顯微鏡ノ構造ニ工夫ヲ凝シテ、表裏兩面ヲ見得ルモノモ案出サレタリキ。然レドモ今日旣成ノ該顯微鏡ハ其價不廉ナルノミナラズ、高度ノ場合ニ適セズ、葉ノ細胞ノ乳頭、緣齒ノ構造ノ如キハ到底之ヲ以テ滿足ナル觀察ヲナシ得ザルベキヲ以テ、余ハ此ノ工夫ヲ顯微鏡ニ求メズシテ、之ヲ「プレパラート」ニ得ントシタリキ。明治卅七年ノ秋一日余ハ緣齒鏡檢ノ際、偶然此ノ冀望ヲ滿足セシメ得ベキ一工夫ヲ案出シ、其ノ結果良好ナルヲ認メ爾來數年常ニ此方法ニヨリテ葉及ビ緣齒ノ內外表裏兩面ヲ自由ニ觀察シ、充分ナル研究ヲナシ來リタリ。

於テハ、今世之レヲ棄テ、新タニ菌褶、菌鰓等ノ語ヲ用ユルノ要ヲ見ザルニ非ズヤ。

(三) Stipe, Stem ノ譯語ニ多ク菌柄ノ語ヲ用ユレドモ之レ亦古來ノ菌類書ニハ莖ノ語ヲ使用セリ。之ヲ要スルニ蕈體各部ノ主要ナル術語ハ、古來一定セルモノアリテ和漢ノ書籍ニ之等ヲ用キ居ルモノナリ。

例　紫面蕈、面微紫繭潔白肥大傘張味美黃山最產春夏俱有……(吳蕈譜)

傘蕈、狀チ初ダケニ似テ莖長サ七八寸莖ノ廣サ八八寸繭ノ下ニ鍔ノ如キモノアリ莖赭褐色莖淡赭色、……(坂本氏菌譜)

(四) Annulus, Ring 譯語ニ菌輪、下環帶等用キラルレドモ、古來鍔ノ字ヲ用ヒタルモノ多シ。此物ハ常ニ莖ノ上部ニアリテ、ヤヽ厚キモノハ刀ノ鍔ノ如クニ柔軟ニシテ薄キモノハ小兒ノ涎掛ノ如クニ下垂スルガ故ニ、我邦ニテハ俗ニつばト稱シテ、わト云ハズ。蕈ノ中ニハ屢々多數輪狀ニ發生スルモノアリテ、英語ニテ之ヲ "Fairy ring" ト稱シ、魔神ノ造レル輪ト云フ意味ニテ之レヲ呼ベルガ故ニ、菌輪ナル語ハ寧ロ之レニ當ツベキヲ可ト思ハル、程ナレバ Annulus ノ譯語トシテハ鍔ノ語ヲ使用センコトヲ欲ス。

又余等ハ Volva ニ對シテ脚苞、Warts ニ對シテ疣點、Veil ニ對シテ他ニ適當ナル語ヲ見出シ得ザルニ依リ蓋膜ノ語ヲ用キン事ヲ欲ス。古書ニハ極ク稀ニ Volva ニ護膜又ハ球ナドノ文字ヲ用キ近頃臺、鞘等ノ字ヲ使用セシ人アリ、余等ノ一人ハ從來壺ノ字ヲ用ヒタリシモ、此物ハ結實體ノ下端ニアリテ包ム形アルモノナレバ、脚苞ト譯スル方適當ナラン。

蓋ノ表面ニ附著セルモノニハ、其形ニ依リテ種々其名稱ヲ異ニス、同ジ Scales ニテモ片狀ナルト、毛狀ナルトノ差別アリ、之等ニ向ツテハ夫々適當ナル譯名ヲ要スルコトナルガ Warts ト稱スルモノニ向ツテ疣點ノ語、適當ト思ハル。

以上述ブル所ハ主トシテ蓋、褶、莖、鍔等ノ語ガ古來和漢ノ菌類書ニハ一定シテ用キラレ居リ、既ニ數百年間使用シ來レルモノナルコトヲ述ベ、併セテ今日之等ヲ使用スルハ敢テ不可ナキノミナラズ却テ適切ナルヲ思フガ故ニ、近來用キ初メタル他ノ用語ハ今ヤ一般ニ知ラレタルモ、余等ハ之等ヲ以テ別名、異名トスルニ止メ、術語ノ本名トシテハ矢張、蓋、褶、莖等古來使用セルモノヲ採ランコトヲ欲シ、茲ニ大方諸彦ノ賛同ヲ切ニ希望スル者ナリ。

次ニ之ヲ對約シテ示サバ

Pileus	蓋
Lamella	褶
Stipe	莖
Annulus	鍔
Volva	脚苞
Warts	疣點
Veil	蓋膜

邦在來ノモノニシテ、而モ古來一定セルモノナルヲ知ルガ故ニ、今日之レヲ用キルモ不可ナキニ於テハ、之等ヲ採用シテ昔時菌類研究者ノ定メタルモノニ倣フヲ禮ナリト思フガ爲ニシテ却ツテ古キニ據リタルニアリ。

(一) Pileus ノ譯語ニ、今日ハ普通ニ菌傘、菌帽等ヲ用キ居レリ、前者ハ其形ヨリシ、後者ハ原語ノ意味ヲ譯シタルモノナルガ、此兩者共ニ必ズシモ不可ナリト云フニ非ズ。唯前者ノ傘ナル語ハ、柄ヲモ共ニ指示スルモノナレバ、之レヲ以テ茸ノ上部帽狀ナル所、卽チ莖ヲ除キタル部分ノミヲ指示スルニハ少シク不適當ナル感ナキニ非ザレドモ、我邦俗之ヲかさト呼ブ以テ、傘ノ字ヲ用キタルモノトセバ敢テ不可ナシ。然レドモ Pileus ニ對スル譯語トシテハ既ニ古昔ヨリ和漢ノ菌類書ニハ蓋或ハ蓋(カサ)ノ字ヲ用ヰ居レリ。(蓋ハ蓋ノ本字ナルコト字書ニ見ユ)

吳萱譜ヲ始メトシ、昔時ノ菌類書皆然ラザルハナシ、卽チ我邦ニテモ松岡玄達氏ノ怡顏齋菌品、坂本浩然氏ノ菌譜、市岡知寬氏ノ三野伊奈菌圖、岩崎常正氏ノ本草圖譜、小野蘭山氏ノ本草綱目啓蒙等ヲ始メ、其他古來菌類ニ關シテ記述セルモノ一トシテ此語ヲ使用セザルハナク、近クハ伊藤圭介氏ノ日本産物志、田中延次郎、田中長嶺兩氏ノ日本菌類圖說等ニモ亦此語ヲ用キタレバ、古來 Pileus ノ譯語トシテハ吾人一定ノモノヲ使用シ來リシヲ近世、何時ノ頃ヨリカ菌帽、菌傘等ノ新語ノ出ヅルニ至リシナリ。

斯ノ如ク余等ハ我邦過去ニ於テ、一定セル學術語、蓋ナルモノアリテ永キ年月ノ間一般ニ使用シタリシヲ知リ、然モ今日、之レヲ使用シテ少シモ不便ナラザルノミナラズ、原語ノ Pileus ニ對スル邦語トシテ蓋ノ一字ヲ用フルハ適當ニシテ常ニ便ナルヲ思フ者ニシテ菌類ヲ記述スル場合、用語ニ菌帽、菌傘ト云フガ如ク、一々菌ノ字ヲ附加スルニモ及バザレバ、單ニ蓋ノ一字ニテ事足ルベキヲ思ヒ、古來ノ例ニ倣ヒテ之ヲ使用セン事ヲ欲スルナリ。

(二) Lamella, Gill ノ譯語ニ菌鰓、菌褶等アリテ菌褶ハ其最モ普通ニ使用セラルヽ所タリ。前者ハ Gill ヲ直譯シタルモノ、後者ハ本邦ノ俗之ヲひだト稱スルガ故ニ擇ビタル語ナルベシ。此兩者モ亦共ニ不可ナルニ非ザレドモ、蕈ノひだニハ古來ノ和漢ノ書ニハ、盡ク襵(ヒダ)ノ字ヲ用キタリ。(畧シテ襵ニ造レルモノアレドモ宜シカラズ、又近世襵ノ字ヲ用ユルハ誤ナリ)俗ニ褶ノ字ヲひだト訓スレドモ、褶ノ本來ノ意義ハ重衣ノ最モ上ニ在ルモノヲ謂フノ外、衣服ノ名ニシテ、通常ひだノ義ナキガ如シ。然ルニ襵又ハ襵(襵ハ襵ノ本字ナレバ字畫ノ簡單ナル後者ヲ常ニ用フルヲ便トス)ハ、通常ひだヲ意味スルコト字書ニ見ユ、古來、和漢ノ菌類書皆此字ヲ用キタルハ大ニ理アルナリ。字義ノ解釋ハ兎ニ角、古來一定シテ使用シ來リタルモノ、而モ其本來ノ字義ニ於テひだヲ指示スルモノナリト云フニ

◎雜錄

○葦體各部ノ名稱ニ就テ

白井光太郎
川村清一

學術上ノ用語ハ總テ最モ適切ニシテ、然モ常ニ一定ナルヲ要スルハ言ヲ俟タザル所ナルガ、從來我邦ノ學術語ニハ數種ノ相異リタルモノヲ同意義ノ術語トシテ用キ居ルモノ少シトセズ。是レ我邦ノ學術語ハ多ク英獨其他ノ語ヲ譯シテ造リタルモノナレバ、譯字選定ノ際原語ノママヲ譯スルト、或ハ又原語ノ如何ニ關セズ、其意義ニ於テ我邦ニ適當ナルモノヲ選ビテ之レニ當テントスルト、二樣ノ譯シ方アルガ主ナル原因ニシテ、彼ノ岩石ノ Andesite ナルモノニ向ツテ之レヲ安山岩トセル者ト富士岩トセル者トアルガ如キハ卽チ是ナリ。

其他語調ノ良キモノ、意味ノ適切ナルモノ等種々ノ意見ヨリシテ、自ラ最良ト信ズル語ニ改メテ用キル者アルガ故ニ益々種々ノ術語ヲ生ズルナリ。又其何レヲ使用スルヤハ、各人ノ取捨選擇ニ任シアレバ、初等、中等教育程度ノ書籍ニシテ尙個々其術語ヲ異ニセルモノアリテ常ニ學生ノ修學ニ不便ヲ感ジツヽアルハ、我ガ教育上遺憾トスル所ナリ。

此弊ハ本邦ノ學術界總テノ方面ニ多少之ヲ見ルモノナレドモ、他ノ學界ニアリテハ大體ニ於テ自ラ一定セルカ、或ハ學會其他ノ協議ニ依リテ爾來各自ノ使用ヲ一定スルニ至リタルモノ等アルニ、獨リ我植物學界ニアリテハ、未ダ其事ナキノミナラズ、新著述ノ出ズル每ニ益々其範圍ノ擴大シツヽアルヲ見ル。

爰ニ於テカ、曾テ理學博士遠藤吉三郎氏ハ之レヲ本誌ニ論ジテ、譯語一定ノ要ヲ述ベタルコトアリ。又理學博士三宅驥一氏ハ之レガ實行ヲ望ンデ、曩ニ東京植物學會總會ニ於テ提議シタル事アリシト雖、植物學上譯語一定ナルモノハ遂ニ行ハレズシテ今日ニ及ベリ。

植物ニハ和名ニ數種ノ異名ヲ有スルモノ多キガ如ク、學術語ニ於テモ亦數個ノ別語ヲ有スルモノ多クシテ、吾人ハ他ノ學術研究者ニ比シテ、常ニヨリ多クノ不便ヲ感ジツヽアル者ナレバ、セメテハ普通、中等教育界ニ於ケル植物術語ナリトモ、一定シタク切望スル所ナレドモ、コレトテモ本邦ノ植物學者全般ニ亘リ協議ヲ要スル事トテ、今日ノ狀態ニ於テハ遺憾ナガラ容易ニ行ハレザル事ナルベシ。

卽チ植物學上、術語ヲ一定シ、其用語ヲ單純ナラシムルハ、吾人ノ最モ希望スル所ナルニ、然モ余等ハ從來葦體各部ノ名稱ニ向ツテ、蓋、網、莖等ノ語ヲ用ヒ近來一般ニ用キ居レル菌傘、菌褶、菌柄等ノ例ニ倣ハザルハ人或ハ見テ新奇ヲ衒フ者トナシ、譯語統一ノ主旨ニ自ラ反スル者ト爲スモノアランモ、余等ハ之等ノ術語ヲ以テ本

實生ニ混ジテ特異ノ一植物生ジ其ノ性質 *P. floribunda P. verticillata* ノ丁度中間ニ位セリ、翌年ニ到リ人工的ニ *P. floribunda* ヲ母トシ *P. verticillata* ヲ父トシ花粉ノ交配ヲ行ヒ雜種ヲ作リ見タルニ前年 *P. floribunda* ノ實生ニ混ジテ生ジタル特異ノ一植物ニ其ノ性質全ク一致シ玆ニ雜種植物ナル事確メラレ始メテ *P. kewensis* ナル名稱附與セラレタリ、既ニ何人モ知ル如クさくらさうノ或ル種類ノ花ニハ二型アリテ一型ハ長キ花柱ト花柱ノ中部ヲ圍メル葯トヲ有シ他型ハ短カキ花柱ト花柱ヨリモ遙ニ高處ニ存在セル葯トヲ有ス、如何ナル理由ニヨリシモノナルカ *P. kewensis* ハ最初唯葯ヲ高處ニ著ケタル花ノミヲ生ジ花柱ノ長キモノ絕ヘテ生ズル事ナク從テ又種子ヲ結ブ事ナク繁殖ハ單ニ無性的方法ニノミ據リタリシガ突然ニモ一九〇五年ニ到リ花柱ノ長キ花唯一個生ジコレニ花柱ノ短カキ花ノ花粉ヲ著ケタルニ首尾能ク結實シタルヲ以テ之ヲ蒔キ注意シテ培養シタルニ不思議ニモ此ノ度ハ兩型ノ花相混ジテ澤山ニ生ジ從テ種子モ亦澤山ニ出來廣ク世上ニ播布スルニ到レリ、サレバ今日世上ニ流布セル實ヲ結ブ *P. kewensis* ナルモノ其ノ起原ヲ尋ヌレバ唯一個ノ花ニ其ノ源ヲ發スルモノナリ

著者ヂグビー女史此ノ *P. kewensis* ノ細胞學的研究ヲ思ヒ立チ先ヅ其ノ兩親ヲナセル兩植物ノ染色體數ヲ勘定シタルニ其ノ數共ニ相ヒ同ジク無性世代ニ於テ十八有性世代ニ於テ九ナル事ヲ確メ得タルヲ以テ次ニ實ノ出來ザル *P. kewensis* ノ染色體ヲ驗シタルニ矢張リ兩親植物ト全ク其ノ染色體數同一ナル事ヲ確メタリ、玆ニ於テ更ニ進ミテ實ヲ結ブ *P. kewensis* ノ染色體數ヲ驗シタルニ驚クベキ事ニ其ノ染色體數倍加セラレ無性世代ニ於テ三十六有性世代ニ於テ一八ナル事ヲ發見セリ、此ノ事實ハ *Oenothera Lamarckiana* ノ偶然變種ノ一ナル *O. gigas* ガ母植物ニ比シ其ノ染色體數、倍ナル事實ト相幷ビ植物細胞學上ノ面白キ一發見タルヲ失ハザルベシ、

實ヲ結ブ *P. kewensis* ノ園藝變種ニ *P. kewensis farinosa* ナルモノアリ、其ノ染色體數親植物ト異ナル所ナシ、

玆ニ奇ト稱スベキハ *P. verticillata* ト *P. floribunda isabellina* トノ間ニ生ジタル雜種ハ其ノ性質 *P. kewensis farinosa* ト同ジク其ノ染色體數モ亦全ク同一ナリ、又 *P. floribunda isabelliana* ト實ヲ結ブ *P. kewensis* トノ間ニ生ジタル雜種ハ先ニ述ベタルガ如ク一方ガ倍ノ染色體數ヲ有スルニ拘ラズ其ノ染色體ハ *P. floribunda* ト毫モ異ナル所ナク十八及ビ九ナリト云フ、先ニゲールツ氏ニヨリテ研究セラレタル *Oenothera Lamarckiana.* ト *O. gigas.* トノ雜種ガ第二代目ニ於テ全ク *O. Lamarckiana* ノ染色體數ニ復歸シタルト稍其ノ趣ヲ一ニスルモノト稱スル事ヲ得ベシ、

(M. Tahara)

ヲ反覆シ右ノ結果ヲ確メタリ、少量ノ酸素ノ存在ハ敢テ該菌ノ生活ヲ害セズト雖モ大氣中ニ於テハ全ク其發育ヲ認ムルコトナシ。

炭素源トシテハ上記ノ重炭酸「ナトリウム」ノ他「アンモニウム」、「カルチウム」、「マグネシウム」、「マンガン」等ノ炭酸鹽ヲ供用スルコトヲ得、但シ遊離炭酸ハ用ニ適セズ之レ蓋シ培養液中ニ生成スル硫酸ヲ中和スル能ハザルニ由ルナリ、有機化合物ハ固ヨリ該菌ノ營養ノ資源タル能ハズ、但シ其少量ヲ無機培養液ニ添加スルモ他ノ自營細菌（例セバ硝化細菌）ニ於ケルガ如ク敢テ其發育ヲ阻害スルコトナシ。

酸化材料即チ力源物質トシテハ獨リ「チオ」硫酸鹽 $Na_2S_2O_3$ ノミナラズ、硫化水素 H_2S、遊離硫黄ヒ、次硫酸鹽 $Na_2S_2O_4$ 亦其用ニ適ス此等ノ硫黄化合物ハ皆硝酸鹽ノ過剰ニ由リ常ニ全ク硫酸ニ至ル迄酸化セラル、但シ此酸化ハ漸進的ニシテ幾多ノ中間酸化物ヲ經由スルガ如シ、而シテ此際硝酸鹽ハ全ク還元セラレテ窒素ヲ發生スルニ至ルコト既記ノ如シト雖モ、亞硝酸鹽ハ之ニ反シ全ク脫窒作用ヲ蒙ラザルコト頗ル奇ト言フベシ。

酸化セラルヽ「チオ」硫酸ト同化セラルヽ炭素トノ重量比ハ略一定ニシテ卽チ一瓦ノ「チオ」硫酸ノ酸化ニ由リ約一〇・九「ミリ」瓦ノ炭素ヲ同化スルコトヲ得。

自然界ニ於ケル硫黄ノ循環ニ對シ右ノ嫌氣性硫黄「バクテリア」ハ重要ナル意義ヲ有スルモノナラン、蓋シ蛋白質ノ腐敗等ニ由リ多量ニ生成スル硫化水素ハ其再ビ一般植物ノ營養料トナルニ當リテハ必ズ先ヅ酸化セラレテ、硫酸トナラザルベカラズ、而シテ止水中ノ汚泥、又ハ海底等ノ如ク酸素ノ供給極メテ不十分ナル場所ニ於テハ右ノ酸化作用ハ專ラ本論文ニ記スルガ如キ脫窒細菌ノ營爲スル所タル復タ疑ナシト謂フベシ。

著者ノ研究セル嫌氣性脫窒硫黄「バクテリア」ト從來已知ノ好氣性硫黄「バクテリア」トノ間ニハ幾多中間型ノ存在ヲ見ルベキ固ヨリ言ヲ俟タズ、嘗テバイエリンクノ記載セル好氣性 Thiobacillus denitrificans ノ如キ亦其一ニ屬スルモノナラン。　(K. S.)

○ヂグビー女史『さくらさうノ雜種ニ於ケル細胞學的研究』

Digby, L.:—The Cytology of *Primula kewensis* and of other related *Primula* Hybrids.

(Ann. Bot. vol. XXVI. No. CII. Apr. 1912. with 4 Pls.)

さくらさうノ雜種ニ *Primula kewensis* ナルモノアリ、極メテ趣味アル歷史ヲ有ス、英國キューノ植物園ニテハ久シク *Primula floribunda. P. verticillata.* ナルさくらさうヲ澤山ニ培養シ花時ニハ此ノ二植物ヲ接著セシメテ植附ケ居タリシガ偶然ニモ一八九九年ニ到リ *P. floribunda* ノ

◎新著

○ルードルフ、リースケ氏『脫窒硫黄「バクテリア」ノ生理ニ關スル研究』

R. Lieske: Untersuchungen über die Physiologie denitrifizierender Schwefelbakterien. (Sitzungsber. d. Heidelberger Akad. d. Wissenschaften. Mai. 1912.)

（頁數二十八）

硫黄化合物ノ酸化ニ由リ得タル「エチルギー」ヲ利用シ炭素同化ヲ營ム細菌ノ存在ハナタンゾーン及バイエリンクノ研究ニ由リ明白ナレドモ已知ノ種類ハ皆好氣的即チ遊離酸素ノ攝取ヲ必要トスルモノノミナリキ、今著者リースケ氏ハライプチヒ植物學敎室ニ於テ研究中無氣的狀態ニ於テ同樣ノ作用ヲ營ム硫黄「バクテリア」ヲ發見シ純粹ニ之ヲ培養スルヲ得タリ、此細菌ハ長サ〇、五乃至一、五〃ノ細小ナル桿菌ニシテ水底ノ汚泥中ニ普ク棲息スルモノノ如シ、著者ノ用キタル培養液ハ左ノ如シ

蒸餾水	一〇〇、〇瓦
「チオ」硫酸ナトリウム	〇、五
硝酸加里	〇、五
重炭酸ナトリウム	〇、一
酸性燐酸カリウム	〇、〇二
鹽化マグネシウム	〇、〇一
鹽化カルチウム	痕跡
鹽化鐵	同上

今上記ノ培養液ヲ硝子曲管ヲ具フル「ゴム」栓ヲ以テ密閉セルエルレンマイヤー壜ニ充盈シ、常法ノ如ク滅菌セル後該菌ヲ接種シ、硝子曲管ノ先端ハ水銀中ニ沒入シテ外氣ノ接觸ヲ遮斷シ兼テ瓦斯ノ逸散ニ便ナラシムル時ハ、攝氏二十五度ノ溫ニ於テ數日ノ後强盛ナル瓦斯ノ發生ヲ認メ、發育セル細菌聚落ハ初メ培養器壁ニ薄膜狀ヲナシテ附著シ瓦斯發生止ムニ至リ之ヲヨリ脫離シ培養液中ニ浮遊スルヲ見ルベシ、爰ニ發生スル瓦斯ノ大部分ハ窒素ニシテ少量ノ炭酸瓦斯ヲ混ズ、而シテ培養液中ニハ硫酸（鹽）ヲ生成ス卽チ、此際硝酸鹽ノ還元（脫窒作用）ト「チオ」硫酸鹽ノ酸化ト同時ニ行ハル、コト略左式ニ示ス所ノ如クナラン。

$$5Na_2S_2O_3 + 8KNO_3 + 2NaHCO_3 = 6Na_2SO_4 + 4K_2SO_4 + 4N_2 + 2CO_2 + H_2O$$

此化學變化ハ放熱（エキソテルミッシュ）的ナルヲ以テ、細菌ハ玆ニ遊離スル「エチルギー」ニ籍リテ炭酸ノ同化ヲ營ミ以テ能ク上記ノ無機培養液中ニ生育スルヲ得ルナリ。

上述ノ如ク該細菌ノ生活ニ對シテハ毫モ遊離酸素ノ供給ヲ必要トセズ著者ハ猶ホ嚴密ナル無氣的狀態ニ於テ試驗

區別セリ、之レ余ガ病稈ノ組織檢査ノ上ヨリ推定シタルモノト實地ニ於ケルモノトガ一致セルモノニシテ「葉枯病」ハ元々別種ノモノト見做ス能ハズ水枯病ト其原因ヲ同フスルモ病症ヲ發シタル時期ガ竹稈ノ幾分ガ生長セシ後ナルカ或ハ被害ノ輕キモノタルニ他ナラズト推知スベシ。然レドモ竹類ノ病症ニハ其葉先ヅ枯レテ脫落スルモノ他ニ無キヲ保セザレバ水枯病被害竹ノ無キ竹林ニ於テ葉ノ脫落枯死スル竹稈アリタル場合ニ向ツテハ之ガ水枯病ト同ジ原因ニヨルモノナルヤ否ヤハ充分注意ヲ要スベシ。

他ノ植物中殊ニ草木類ニアリテハ液汁ニ富ミ且組織ノ柔軟ナルモノ多ケレドモ皆液汁ノ通路タル導管、篩管ノ周圍ニハ相當ニ之レガ滲出ヲ防グ裝置ノ存スルノミナラズ其液壓ハ適度ノ滲透ヲ保有セシムル程度ニアルモノナレバ妄リニ液汁ヲ莖ノ內腔ニ滯溜セシムルコトナシ、故ニ組織柔弱ナルモ妄リニ水液ヲ浸出セザル植物他ニ多々アリト雖之ヲ以テ病的ナル竹稈ニ於ケル液汁浸出ノ理由ヲ疑フコト能ハズ殊ニ竹類ニアリテハ健病ノ竹稈互ニ根莖ニ依リテ相連絡セルモノナレバ病稈內ノ液壓ハ健康ナルモノヽ餘勢ヲ受クルモノアルベシ。

今日迄余ガ攻究シタル所ニ於テハ未ダ病原菌ニ關スル研究ヲ缺クト雖水液滯溜ノ理由トシテ考察シタルモノハ此後知リ得ベキ菌ノ種屬ノ如何ニ依リテ變更ノ要ヲ見ザルモノナレバ玆ニ之ヲ記シテ本病因ノ那邊ニ存スルカヲ述ベ主トシテ水液滯溜ノ理由ヲ論ズ。

本病原ヲ竹稈ノ表面ヨリ寄生スル菌ニ歸シ之ガ直接竹稈ニ病害ヲ與フルモノトセル學說ハ旣ニ出田氏ノ植物病理學書ニモ載セラレテ周ク世間ニ知ラレタル所ナレバ之ニ依リ竹林經營者モ亦被害竹稈ノミヲ除去スルコトニ因リテ驅除セント爲シツヽアランモ余ガ觀ル所ハ以上述ベタルガ如クナルヲ以テ本病ノ驅除豫防ニハ竹林ノ土壤ニ深キ注意ヲ拂ヒ竹ノ地下ノ部分ヲ處分スルニ非ザル以上唯竹稈ノミヲ伐採、燒棄シテハサシタル效ナキモノト信ズ。

タル結果竹ノ切口ニ浸出セル液汁ニ一種ノ釀母菌ガ繁殖シテ酒精醱酵ヲ營ムニ依リ炭酸瓦斯ノ泡ヲ生ズルコトヲ知リ得タリ。竹林ニ出入スル者ハ余ニ語ツテ曰ク泡ノ盛ナルトキハ酒ノ香氣ヲ發スルニ依リ之ヲ感ジテ其周圍ニ藪蚊ノ群集セルヲ認ムト、之レ元來普通ニ各竹林ニ於テ多少目擊スル現象ナルガ水枯病ニ罹サレタル竹稈ニアリテハ其切口ニ一層多量ノ液汁ヲ出スモノナレバ此現象モ亦從ツテ著シキモノナルベシ。液汁ノ浸出乏シクナリタル切株ニ軟キ淡紅色ノ物質ノ附著セルヲ見ルハ薔薇色釀母菌ノ群ニ他ナラザリキ。

四、本病ニ罹サレタル竹稈ノ內腔ニ水液ノ滯溜スル理由

以上觀察スル所ヨリシテ水液ノ竹稈內腔ニ滯溜スル所以ヲ考察スルニ前ニ述ベタル如ク病稈ニアリテハ一般細胞ノ膜薄キガ上ニ導管篩管ヲ包圍セル纖維層ノ發達殊ニ不完全ナルガ爲一定ノ壓力ヲ有シテ充テル液汁ハ之等ノ管壁ヲ透シテ維管束外ニ滲出シ更ニ柔組織ノ細胞膜ヲ滲透シテ維管束ノ稀ナル部分卽チ柔組織ノ多キ部分ヘト向フ結果外ニ向ハズシテ必ズ內方ニ進ミテ竹稈內腔ニ達シ其所ニ滲出點滴シテ滯溜スルモノト爲スベシ。

外圍ニ向フ液汁ハ維管束群ニ阻マレテ滲透ニ不便ヲ感ズルノミナラズ最外圍ニハ殆ンド完全ニ水液ヲ滲透セシムル能ハザル表皮ノアルコトナレバ導管ヨリ壓出シタル液汁ハ內腔ニ洩出溜滯スルノ他ナク遂ニ多量ノ水液ヲ竹筒中ニ見ルモノナルベシ。

病稈ノ下部ノ組織ニハ本病害菌絲ノ蔓延セル場合多ケレバ液汁ノ滲透モ亦一層容易ニ行ハルベキモ下部ハ竹稈ノ組織堅固ニシテ厚キガ常ナレバ水液ノ滯溜モ亦從ツテ少シトス、是レ水液ノ浸出ハ組織ノ硬軟、細胞膜ノ厚薄ニ關スルコト多クシテ菌絲ノ侵害ニ關スルコト少ケレバナリ。

之ヲ要スルニ本病ハ竹稈ノ成長後其表面ヨリ冒サルヽモノニ非ズシテ新稈發生ノ前後ニ於テ地下ノ部分ヨリ受クルモノナレバ病ノ輕重ニヨリ自ラ被害ニ種々ノ程度アリ被害ノ程度輕クシテ組織ノ幾分カ完全ニ近ク發達セルモノニアリテハ本病ノ爲枯死スルニ至ルト雖液汁ハ竹筒內ニ洩出スルニ至ラザルモノアルベキ理ナルガ實際ニ於テ本病被害竹林中ニ竹葉脫落シテ枯死スト雖竹筒中ニ水液ヲ有セザルモノ點在ス人之ヲ呼ンデ「葉枯レ」ト稱シ「水枯レ」ト

最モ甚シキ京都府八反畑國有竹林、同柳島國有竹林、奈良縣木津及ビ加茂國有竹林ニハ此「朱」ノ多キコト著シキガ故ニ余ハ此「朱」ナルモノヽ菌絲ガ稈ノ下部、根莖、根等ヲ侵害セルモノニアラザル無キカヲ疑フモノナレドモ未ダ之ヲ認ムルニ足ラズ病原菌ニ關シテハ此後ノ研究ヲ待ツテ更ニ記ス所アルベケレバ玆ニ推斷スルコトヲ欲セズ。

前ニ示シタル病稈ノ顯微鏡寫眞(B)ハ余ガ作製セル「プレパラート」中柔組織ニ於ケル細胞膜ノ比較的厚キモノヲ擇ビテ(A)ニ較ベタルモノナレドモ一般病稈ニ於ケル細胞膜ハ纖維細胞ノミニ限ラズ常ニ薄キヲ見ル今其ノ例トシテ更ニ(C)ヲ示スベシ(C)ハ明治四十二年ニ發生シ同四十三年中約一年ノ後本病ノ爲枯死シタルモノナリ然ルニ之ヲ同年齡ノ健全ナルモノニ比スルニ纖維ノミニ止ラズ柔組織ノ細胞ガ著シク薄膜ノ儘ニ終レルモノニシテ、如何ニ軟若ナルモノト雖既ニ約一年ヲ經タル苦竹稈ガ斯クノ如ク薄膜ナル細胞ヨリ成レルモノハ到底健全ナルモノニ之ヲ求ム能ハザル所タリ(C)ニ示スモノハ其柔組織ノ細胞恰モ木髓ニ見ルガ如キ狀態ニアリ故ニ余ガ剃刀ヲ以テ之レガ斷面ヲ製スルニ當リ恰モ柔キ木ノ春材又ハ葦蘆ノ類ヲ切ルノ感アリキ。又水液ノ浸潤セル病稈ハ其重量大ナルモ一度枯干セバ甚ダシク輕量トナルハ常ニ著シク認メラル。

又本病被害ノ竹稈ヲ伐採シタル切株ヨリ盛ニ泡ヲ吹キ出スモノナルコトハ明治四十二年京都府山林會編纂ニ係ル「京都山林誌」ニ『之ヲ伐採スル時ハ二、三時間乃至四、五時間ニシテ根株切口ヨリ盛ニ泡ヲ吹キ出ス』ト誌セルニ依リテ余ハ實地踏査前ニ豫メ知リタル所ナルガ如何ニシテ泡ヲ吹クモノナルヤ其理由ヲ知ル能ハザリシガ實地ニ檢シ

呈スルニ至ル迄ハ外觀ニ於テ異變ヲ認メザル頗ル太キ竹稈ヲ冐スモノニシテ普通ノ姥竹トハ自ラ異ル所アリ。余ガ京都附近ニ於テノ竹林經營ニ永キ經驗ヲ有セル老人ニ就テ聞クニ本病害ハ玆凡十年前迄ハ全ク見ザリシモノナルガ八、九年前ヨリ始マリテ次第ニ增加シ一兩年前ヨリ頓ニ蔓延ノ狀態ニアリト云フ、現今京都附近ニ於ケル本病ノ被害ハ頗ル大ニシテ憂慮スベキモノナレバ昔時如何ニ竹林經營ニ無頓著ナリシ時代ト雖竹材ヲ利用セル以上、本病害ノ被害ニシテ今日ノ如ク大ナリシナランニハ之ヲ感知セザルコトヨモ非ザルベシ、然ルニ全ク之ヲ知ラザリシハ其當時本病害ヲ見ツヽアリタルトスルモ其程度ヤ輕微タリシヤ必セリ。

卽チ本病ハ近年來頓ニ蔓延スルモノトスルトキハ之ヲ單ニ古來竹林ニ普通ナル姥竹ノ一種ナリトスルモ近年來此種ノ病稈ヲ多ク發生スルニ至リタル原因ノ存スルモノ無カルベカラズ。

更ニ根莖ノ橫斷面ヲ顯微鏡下ニ致シテ檢スルニ之レ亦地上莖ニ見ル健病兩個ノ差異ノ如ク纖維ノ發達不充分ナルノミナラズ一般ノ細胞亦其膜甚ダ薄キヲ見ル。

次ニ根ヲ檢スルニ被害竹ノモノハ概ネ菌絲ノ侵蝕スル所トナリ皮層中心柱ノ區別ナク共ニ害ヲ被レルモノアリ、故ニ組織構成上甚ダシキ異常ヲ認メザル所ト雖菌絲蔓延セルガ爲其機能ヲ充分ニ營ム能ハザルニ至レルヲ見ル。

尙又根莖幷ニ地上莖タル稈ト雖被害竹ニアリテハ其下部地下ニアル部分ヲ橫斷或ハ縱斷シテ之ヲ檢スルトキハ根ヨリ連續シテ菌絲ノ侵入セルモノアルヲ認メ其蔓延甚ダシキ部分ハ褐色ヲ示セルヲ以テ肉眼ニテモ明カニ之ヲ認メ得ルモノアルヲ知ルニ至レリ。

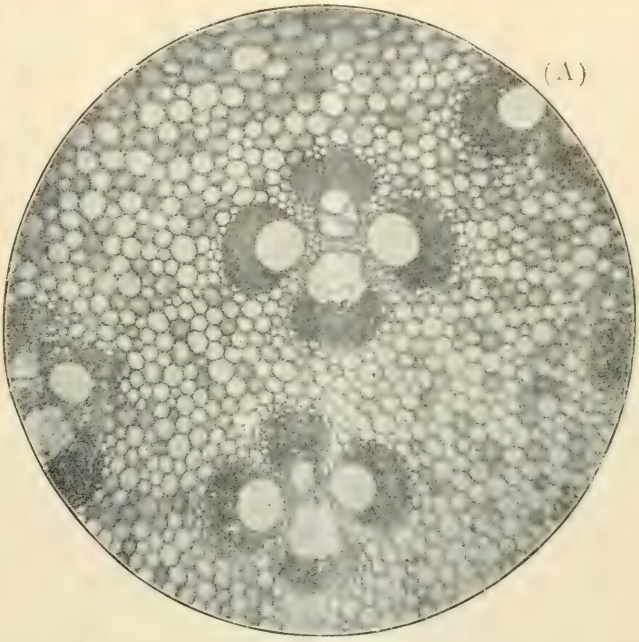
然シテ被害竹ノ地下ノ部ニ見ル菌絲ハ多クノ材料ニ就テ檢スルニ稈、根莖、及ビ根ガ本病ノ爲枯死シタル後第二次ニ侵入スルモノニ非ズシテ活物寄生ノ狀態ニアルモノナルヲ確メタレバ該菌ハ本病ノ病因ヲ成セルモノト認メラルレドモ的確ナル子實體ヲ認メザレバ之レガ種屬ヲ知リ難シ。竹稈上ニ見ル諸種ノ菌類アレドモ今俄ニ之等ヲ以テ地下ノ部ニ存セル菌絲ト同一ノモノナリトハ見做スコト能ハズ。然レドモ本病被害竹林ニハ俗ニ「朱」ト稱シテ從來、女竹ニ普通ナル赤衣菌(Puccinia corticiodes B.et Br.)ト同一物ト見做シ居ル菌ノ寄生ヲ見ルモノニシテ水枯病被害ノ

維細胞群ヲ形成スベキ細胞ガ皆薄膜ノ儘ニ終レルハ(A)ニ比シテ甚ダシク異ル所ナリ。元來纖維細胞ト雖、初メハ柔組織ノ細胞ノ如ク薄膜ナル細胞ニ過ギズシテ其後ノ生長ニ依リテ頓ニ膜ヲ肥厚セシメ遂ニハ細胞内腔ハ横斷面ニ於テ僅カニ點ノ如ク縱斷面ニ於テ線ノ如クニ顯ハル、迄ニ發達シ行クモノナリ。故ニ(A)ニ於テハ纖維細胞ノ發達セルガ爲其膜肥厚シテ闇黑色ヲ呈セルニ反シ(B)ニ於テハ細小ナル普通細胞ノ集團ヲ爲セルモノ、如キ觀ヲ呈セルハ之レ言フ迄モナク(B)ハ竹稈ガ本病ニ罹カリ居リシ爲主トシテ纖維細胞層ノ發達ヲ阻害セラレタルニ他ナラズ。然レドモ人或ハ問ハン、(A)ハ五月ニ發生シタル竹ヨリ採リ(B)ハ六月ニ發生シタルモノヨリ採リタルモノトセンカ上述ノ如キ組織發達ノ相違ハ發生ノ時季ノ早晩ノ區別ニ因ルモノニ非ズヤト、之レ余自ラガ最初ニ懷キタル疑點タリシナリ。何トナレバ竹林中晩ク發生シタル竹ハ俗ニ姥竹ト稱シテ其性柔軟ニ且ツ甚ダ輕ク含水量モ亦多キモノナレバナリ。

(B)

故ニ余ハ病稈ハ一種ノ姥竹ニ非ズヤトサヘ疑ヒタルコトモアリシ。然レドモ多數ノ材料ニ就キ檢スルニ本病因ハ決シテ竹稈發生ノ時季ノ早晩ニアルニ非ラザルヲ知レリ、其故ハ普通竹筍ト同ジク、五月頃ニ發生シタルモノニシテ本病ニ侵サレタルモノノ少カラザルノミナラズ彼ノ姥竹ナルモノハ何レノ竹林ニモ常ニ多少ハ之ヲ生ズルモノニシテ敢テ異トスルニ足ラズ初メヨリ竹稈痩セテ伸ビズ枝葉ノ重量ニ堪エズシテ自ラ曲リテ地ニ接シ早晩腐朽シ去ルヲ常トスルモノニシテ竹林經營者モ亦其發生ハ竹林ニ免レザルモノトシテ敢テ意ニ介セザルモノヽ如シ。然ルニ水枯病ハ葉、枯色ヲ

織ノ細胞ハ既ニ過去二ケ年間ニ於テ細胞膜ヲ肥厚セシメ維管束モ亦充分ナル發育ヲ遂ゲ居ルヲ見ル、殊ニ維管束ノ周圍ニ厚キ纖維細胞群ヲ發達シ竹材トシテ之レヲ使用スルモ其ノ纖維細胞ハ充分ニ竹ノ强靱性ヲ保有セルモノナリ。



(B)ハ明治四十年ニ發生シ同四十二年六月ニ本病害ノ爲メ枯死シタルモ發生後滿二ケ年ヲ經過シタルモノナレバ略(A)ト同ジ年齡ノモノニシテ特ニ(A)(B)ノ顯微鏡寫眞ヲ作成スルニ用ヰタル材料ハ共ニ地上ノ高サ、節間ノ長キ稈ノ直徑肉ノ厚サ其他比較試驗ニ供スル材料トシテハ兩々略相似タルモノニシテ共ニ表皮ニ最モ遠キ俗ニ竹ノ身ト稱スル部分ヲ切片ニ製シタリ唯此兩者ハ共ニ其發生ノ時季ヲ詳カニセズ

(A)ニ示ス所ノモノハ健全ナル苦竹ノ維管束シテ左右ニ一對ノ大ナル導管アリテ眼鏡ノ如ク位シ其中間外方ニ篩管部、內方ニ導管アリテ位置セルヲ以テ橫斷面ニ顯ハレタル維管束ノ形ハ四個ノ略々圓形ナル空所ガ十字形ニ配列セルモノニシテ其周圍ニハ各空所ノ外ヲ包ミテ半月狀ヲナセル纖維細胞ノ厚層アリ又表皮ニ近ク位セル維管束ハ篩部ノ外方ニ大ナル纖維細胞層ヲ有シ最モ表皮ニ近キ部分ニ於テハ各維管束ノ纖維細胞層ノ互ニ相密著ス、纖維ハ其細胞內腔ヲ見ル能ハザル迄ニ厚膜ニシテ細カク且ツ互ニ密接セルヲ以テ、該層ハ顯微鏡下ニ個々ノ細胞ヲ明示スルコト難キ程ナリ。

然ルニ今轉ジテ(B)ニ就テ檢スルニ導管及ビ篩管部等ノ發達ハ其大サニ於テ(A)ニ比シテ左シタル相違ヲ認メザルモ纖

卽チ本病害ハ三月頃竹ノ先端部ノ葉枯色ヲ帶ブル病兆ニ始マリ次デ全部ノ葉枯死脫落シ然ル後節間內腔ニ水液ヲ貯フルモノニシテ夫レガ爲竹稈暗紫色ヲ呈シ終ニ枯死ス病稈ハ其質比較的脆弱ニシテ輕シ。之レ卽チ余ガ奈良縣幷ニ京都府下ニ於テ被害竹林ニ就キ實地ニ調査シテ得タル本病害ノ病徵ナリ。

然而シテ曩ニ本誌ニ於テ記サレタル如ク本病害ハ一種ノ菌ノ寄生ニ因リ竹稈ガ組織ヲ破壞シ雨水之レガ爲ニ入リテ內部ニ滯溜スルモノトセンカ余ガ實地踏査ノ際組織破壞シテ雨水ノ浸入シ得ベキ狀態ニアル病稈ヲ見ルベカリシニ余ガ見タル所ノモノハ全ク之ニ反スル狀態ノ病稈ノミナリシナリ。卽チ水液ヲ貯ヘ居ル竹稈ニシテ外部ヨリ雨水ノ浸入シ得ル孔又ハ裂目ヲ有スルモノ一ツモ無カリシト共ニ竹稈ノ破レ居ルモノハ水液ヲ失ヒテ却ツテ枯乾セルモノナリキ。

水液ハ病稈ノ中部ニアリテハ相連レル數個或ハ十數個以上ノ節間ニ溜レルモノナレバ若シ水液ガ雨水ノ浸入シテ溜リタルモノト爲ストキハ相連レル各節間ノ組織ハ皆甚ダシク菌絲ノ爲メ破壞セラレ居ルベキニ實際ニ於テ其事ナキノミナラズ水液ノ滯溜セシ後種々ノ菌類ガ外部ヨリ寄著シテ組織ヲ侵蝕シ甚ダシキ害ヲ受ケタルモノト雖雨水ノ浸入シ得ル狀態ニアルモノ甚ダ稀ナリシ、依テ余ハ竹筒內ノ竹液ヲ以テ雨水ノ浸入セルモノト認ムルコト能ハズト爲シ水液ノ性質ヲ試驗シタルニ醱酵性ヲ有シ就中酷酸菌ハ容易ニ繁殖シテ酷酸醱酵ヲ起スガ故ニ液ハ著シキ酸性ヲ帶ブルニ至ルコトヲ知リテ其性質略々竹ノ組織內ヲ流ル、液汁ニ等シキヲ知リタレバ愈々其水液ハ雨水ニアラズシテ竹ノ組織內ヨリ內腔ニ滲出シタルモノニ非ザルナキカヲ想フニ至リタレバ次ニ被害竹ニ就キ專ラ稈、根莖、根等ノ內部組織ノ顯微鏡檢査ニ從事セリ、是レ本病ノ特徵トスル所ハ竹筒ノ內部ニ水液ヲ溜メ且ツ材質脆弱トナルニアレバ組織ノ檢査ニ依リテ其狀態ヲ顯微鏡的ニ知ルハ最モ緊要ナル事柄ナリト信ジタレバナリ。

三、水枯病被害竹稈ノ組織ノ特徵

今其結果ヲ二、三ノ例ニ就キ竹稈ノ橫斷面ヲ顯微鏡寫眞ヲ以テ示シ(附圖參照)說明センニハ

(A)ハ明治四十二年ニ發生シ同四十四年四月ニ伐リテ實驗ニ供シタル健康ナル苦竹稈ナリ。之レニ就テ見ルニ柔組

斯クシテ被害竹ハ全部ノ葉ヲ脫落シ遂ニ枝ノミヲ殘スニ至ル。

此時期ニ於テ病稈ヲ縱ニ裂キテ內部ヲ檢スルニ未ダ水液ヲ貯ヘズ且ツ腐蝕ノ狀態ヲ認メズ、竹稈ノ內面ハ通常健全ナルモノニ比シテ敢テ差異アルヲ知ラズ、竹稈表面ノ光澤ニ於テモ亦然リ、病稈ハ葉ヲ脫落シタル後漸ク先端部ヨリ先ニ綠色ヲ失ヒ始メ逐次下部ニ及ブ、四、五月ノ頃ヨリ水液ヲ溜メ、六七月ニ至ル迄其量ヲ增スモノヽ如シ。其水量ハ被害竹個々ニヨリテ差異アリ、同一稈中各節間ニ就テモ各々差異アリ普通ハ竹稈內腔ノ五分ノ一或ハ四分ノ一ニシテ稍多キハ三分ノ一、最モ多キハ三分ノ二以上ニ及ブモノアリ。

同一ノ竹稈ニ就テ觀ルニ水液ヲ最モ多量ニ貯溜セルハ地上數節目ニシテ上部又ハ地ニ接シタル最下部ニ於テハ稍ヤ少ク、最上部ニハ少シモ溜メザルモノナリ、六十五、六節ヲ有ス竹稈ニシテ多キハ地上三、四十節迄ハ水液ヲ貯フルモノナルガ故ニ一個ノ竹稈ヨリ得ル所ノ水液ト雖其量實ニ驚クベキモノアリ。

竹稈ハ內部ニ水液ヲ溜メザル間ハ其外部ノ色澤ニ於テ何等異狀ヲ認メザルモ水液ヲ貯フルニ至テハ竹稈ノ表面ハ綠色ヲ失ヒテ漸次紫色ヲ帶ビ、初メハ綠紫色ナルモ次第ニ暗紫色ヲ呈スルニ至ル其色著シキヲ以テ竹林ニ入リテ竹稈ヲ見ルトキハ其色澤ニ依リテ遠クヨリ病稈ヲ指示シ得ベシ、其色醬油ノ浸染シタル樽ニ似タレバ本病ニ侵サレタル竹稈ヲ醬油樽ト呼ブ者アリ。斯ノ如ク竹稈ノ色ノ變化ハ竹筒中ニ滯溜シタル水ガ組織中ニ浸入スルガ爲ニ生ズルモノニシテ其變化ハ我邦ノ墓場ニ於ケル竹筒製ノ水筒ガ新規ニ立テタル時綠色ナルニ日ヲ經ルニ從ツテ褐紫色ニ變ジ終ニハ破損シテ水ヲ失ヒ乾燥スルニ及ビ全ク枯レテ腐朽スルニ至ルト同一狀態ノ經過ヲ見ル卽チ一旦暗紫色トナリ充分ニ水液ノ浸濕スル所トナルモ次ニ竹稈ノ破ルヽト共ニ水液ヲ失ヒテ乾燥シ自然ニ腐朽シ去ルモノナリ。

被害ノ竹稈ハ病兆ヲ顯ハシタル時直ニ之ヲ伐リ取リタルモノハ未ダ其表面幷ニ內部ニ肉眼的ニハ何等ノ異常ヲ認メザルモ之ヲ健全ナルモノニ比スルトキハ其質既ニ强靱ナラズ、又乾燥シタル後ハ其重量常ニ輕キヲ知ルナリ。故ニ之ヲ桶ノ輪ノ如キ物ニ使用スルトキハ脆弱ニシテ其用ニ堪ヘズ、其他ノ用途ニ向ツテモ病稈ハ腐朽スルコト速カナリト云フ。

流通ヲ計ルニ及ンデ殆メテ水液ヲ外部ニ出ダスコトヲ得タルナリ、故ニ余ハ病稈ノ内部ニ存スル水液ヲ雨水ノ外部ヨリ浸入シタルモノト爲セル説明ハ徐リニ簡單ニシテ到底余ガ本病ニ對スル最初ヨリノ不審ニ向ツテ滿足ヲ與フルモノニ非ザルヲ思ヘリ。

而シテ病稈ヨリ得タル水液ヲ玻璃器ニ盛ルニ透明無色、實ニ清淨ニシテ何等腐敗ノ徵ヲ見ズ更ニ之ヲ顯微鏡下ニ檢スルニ細菌、絲狀菌、藻類等ノ存在ヲ認メズ。

依テ余ハ益々此水液ノ性質及ビ其ノ如何ニシテ竹稈内腔ニ滯溜セシカヲ知ラント欲スルノ念切ナレバ昨年春季自ラ京都府幷ニ奈良縣下ニ旅行シ本病被害ノ激甚ナル各苦竹林ニ就キ實地ニ觀察シタル結果病因ハ寧ロ竹稈ニ在ルニ非ズシテ主トシテ地下莖幷ニ根ニ存スルコト及ビ竹筒中ノ水液ハ雨水ノ浸入シタルモノニ非ズシテ正シク竹自身ノ液汁ガ内部ニ浸出滯溜セシコトヲ知リ得タレバ其結果ヲ先ヅ農商務省山林局林業試驗報告第九號ニ記シ置キ後重ネテ精密ナル實驗ヲ經テ之ヲ病理學界ニ發表セント期シタリ、然シテ其後觀察スル所ハ愈々余ガ卑説ヲ確ムルモノアルヲ以テ未ダ其病原菌ニ就キ種屬ヲ明カニスルヲ得ザレドモ病害ノ系統ニ關シテ固定セル結果ヲ得タルニ於テハ茲ニ今日迄余ガ研究シ得タル所ヲ記述セントス、而シテ本問題ニ關シテハ曩ニ林業試驗報告ニ記シタレドモ該報告ハ印刷部數僅少ニシテ其内容ハ植物學研究者一般ニ知ラレザル場合多ケレバ重複スル所アルモ厭ハズ茲ニ最初ヨリノ觀察ヲ記スコトヽセリ。

二、水枯病ノ症狀

本病ハ外觀ニ於テ筍及ビ幼稈ノ時代ニハ病兆ヲ認ムルコト難ク、二、三年ヲ經タルモノニ於テ始メテ之ヲ認ムルヲ普通トス。本病ニ侵サレタル竹稈ハ三月頃ヨリ先端部ノ葉枯色ヲ帶ビ日數ヲ經過スルニ從ツテ漸次下方ニ及ビ五月頃ニハ病稈ハ其葉悉ク枯色ヲ呈スルヲ以テ竹林中ニ在ツテ容易ニ之ヲ認ムレドモ其初期ニアリテハ只先端部ニ於テ枯色ヲ呈セル葉ヲ有スルノミナリ、故ニ初期ノモノハ竹林中ヨリ仰イテ之ヲ認識スルコト難シト雖一度歩ヲ竹林外ニ運ンデ遠ク之ヲ望マバ先端部枯色ヲ帶ベル竹稈ノ所々ニ點在スルヲ見ルヲ以テ容易ニ其ノ所在ヲ判定シ得ベシ。

余モ亦此名稱ヲ用ヰタリ。然レドモ單ニ「水枯病」ナル名ニ依ツテハ何人モ洪水或ハ降雨ノ過多ニ因リテ生ジタル竹林ノ病害ノ如ク想フト雖爰ニ所謂「苦竹ノ水枯病」ナルモノハ特殊ノ原因ニ依リテ竹稈ノ内腔ニ多量ノ水分ヲ貯ヘ竹稈ハ遂ニ枯死スルニ至ル一種ノ病害ノ謂ニシテ外界ニ於ケル水濕ノ多少ハ敢テ直接ノ關係ヲ有セザルモノナリ。本病ハ他ノ竹種ニ於テハ未ダ之ヲ認メズト雖或地方ノ苦竹林ハ之レガ爲多大ノ損害ヲ受ケツヽアリ。

云フ迄モナク苦竹ハ本邦產竹類中其質諸種ノ用途ニ適スルヲ以テ古來各地ニ栽培セラレ殊ニ氣候地味ノ之レガ繁殖ニ最モ適當ナル京阪地方ニテハ近來益々之ヲ栽培シ殖林ヲ勵ミタル結果今ヤ產業上重要ナルモノヽ一ト成レリ。然ルニ近來本病ノ發生ヲ見ルニ至リ竹稈内ニ水液ヲ溜メ葉ハ脫落シ竹稈ハ全ク枯死シ、其質脆弱トナリテ竹ニ特有ナル强靭性ヲ失フヲ以テ殆ンド用ニ堪エザルモノ年ヲ逐フテ增加スル傾向アルニ由リ竹林經營者ハ深ク憂慮シツヽアリ。

左レバ數年來多クノ人々ニ依リテ其原因ヲ闡明シ適切ナル豫防驅除ノ方法ヲ講ゼント企テラレタルガ未ダ何人モ其說ヲ發表セザリシニ際シ三宅農學士幷ニ原ノ兩氏ハ明治四十三年十二月、植物學雜誌第二百八十七號ニ本病害ハ *Chlridrosporium Bambusae* MIYAKE ET HARA ナル新種ノ菌ガ竹稈表面ヨリ寄著シテ内部ニ侵入シ組織ヲ冒スニ依リ雨水其間ヨリ浸入シテ竹稈内腔中ニ溜ルモノナルコトヲ記シ、其水液ノ滯溜ハ單ニ雨水ノ浸入ニアリト述ベラレタリ。

當時余ハ本病原ニ就キ京都ノ竹林家ヨリ質問ヲ受ケ次テ林學士寺崎渡氏ヨリ氏ガ京都地方ニ得タル標本ヲ惠マレタル事アリタレバ親シク其材料ニ就キ其病因ヲ觀察シツヽアリシナリ、然シテ最初ニ余ガ如何ニモ不審ノ病徵ナリト思ヒタルハ被害竹稈ノ枯干セザル間ハ水液ハ竹稈内ニ存シテ少シモ外部ニ漏出スルコトナク試ニ竹稈ヲ手ニシテ烈シク振盪スレバ内ナル水液盛ニ音シテ其多量ニ存スルコトヲ知レドモ少シモ外部ニ浸出セザル一事ニアリキ、後續テ多クノ材料ヲ京都ヨリ得テ檢シタルモ常ニ内部ニ存スル水液ハ其儘ニテハ外部ニ浸出セシムルコト全ク不可能ナルノミナラズ大ナル錐ヲ以テ一個ノ孔ヲ穿ツト雖尙容易ニ出ヅルコトナク更ニ第二ノ孔ヲ造リテ一方ヨリ空氣ノ

部ヨリ弱光ヲ入レシムルトキハ、培養器面ハ自ラ一種ノ淡綠光ヲ放ツニ至ルベシ、此ニ於テ該器ヲ取リ出シテ檢スレバ、奇異ノ光輝ハ忽然消失シ、唯殆ド無色ナル纖絲ノ基面ヲ被ヘルヲ見ルノミ、又故ラニ暗室ニ齎ラサヾルモ、奥深キ黑色ノ箱ヲ取リ、其內部ニ該培養基ヲ置キ、內部ヘ弱光ヲ入ラシメ、以テ外部ヨリ窺フトキモ、尙良ク前記ノ如キ發光現象ヲ認ムベシ、

此ノ如クひかりごけハ容易ニ培養シ得ルノミナラズ、臨時發生セシメテ其絲狀體ヲ植物生理學上ノ實驗ニ供スルノ便アリ、本來ノ產地ニ於テハ人工培養ニ比シテ一層外圍ノ適良ナルニヨリ盛ニ發生シ、半バ陰暗ノ場所ニ於テ能ク弱光ヲ利用シ、以テ發生ヲ遂グルノ狀ヲ知ルベシ、蓋シ斯カル陰暗ノ場所ニテハ普通ノ多ク光線ヲ要スル種類ハ發生スル能ハザルモノナリ、

ひかりごけハ一種奇異ノ蘚類ニシテ、學術上研究ノ好資料タルヲ以テ、其完全ニ發生セル洞穴ノ如キハ獨逸ニテハ天然記念物トシテ之ヲ採ルヲ禁ゼル所アリ、我邦ニテモ今ヤ該蘚ノ產スルヲ知リタレバ、其場所（洞穴）ハ獨逸ニ於ケルガ如ク天然記念物トシテ完全ニ保護シタキモノナリ、

因ニ記ス、信州野澤產ノひかりごけニ就テハ、予ハ小山氏寄贈ノ標品ニヨリテ實驗シタル絲狀體ノ光線屈折ノ狀態ヲ自著『新編植物學講義』上卷六一四頁（明治四十四年出版）ニ圖說セリ、依テ茲ニ小山氏ニ標品寄贈ノ好意ヲ謝ス、

苦竹ノ『水枯病（貯水病）』ヲ論ズ

川村清一

Kawamura, S.,—Notes on the Water-Reserving-Disease of *Phyllostachys bambusoides* S. et Z.

一、緒言

水枯病ナル名稱ハ本病ノ被害最モ多キ京阪地方ニテ呼稱セルモノナルガ既ニ一般ニ用キラルヽ所トナレルヲ以テ

同氏ノ解說ハ尙ストラスブルゲル、ノル、シムペル、シェンク四氏ノ合著ニカヽル『植物學教科書』（第一版千八百九十一年）ニモ載セラレ、又其他ノ種々ノ著述ニモ記載セラレタルモノアリ、ケルネル(Kerner)氏ノ Pflanzenleben 第二版第一卷（千八百九十六年）ニモ該蘚ノ洞穴内ニテ陰光ヲ放テル石版圖ヲ載セタリ、又近時セモン(Semon)氏ノ著ハセル Die Gestalt- und Lageveränderung der Pflanzen-Chromatophoren. 1908. ニモ同氏ガ該蘚ノ絲狀體内ノ葉綠體ノ位置ノ變化ニ關スル實驗ヲ記述セリ、

此ノ如クひかりごけハ植物生理學上珍奇ナル材料ナルモ、從來予ハ未我邦ニ產スルヲ聞ズ、從テ之ヲ實驗ニ供スルノ便少カリシガ、前述ノ如ク先年小山氏ヨリ送ラレタル標品ニヨリテ、圖ラズモ該蘚ノ我邦產アルヲ知リタレバ、先ヅ其培養試驗ヲ施セリ、培養ノ方法ハ(一)消毒セル瓦片ニ該蘚ノ絲狀體ヲ含メル土ヲ少シク載セタルモノ、(二)消毒セル腐植土性ノ土ニ同樣ニ絲狀體ヲ含メル土ヲ載セタルモノトノ二種トナシ、(一)(二)トモ之ヲ「ペトリ」氏皿ニ入レ、蓋ヲ密閉セズシテ、少シク空氣ノ流通ヲ許シ、更ニ全體ヲ玻璃罩内ニ容レ、塵埃ノ竄入ヲ防ギ、之ヲ薄暗キ場所ニ置キタリ、此ノ如ク裝置セル培養器ニハ稍、多量ノ水ヲ注ゲルモノト、少量ノ水ヲ注ギ、僅ニ濕氣ヲ保テルモノトノ區別ヲ爲シ、又別ニ水ノ代リニ少量ノクノップ氏液ヲ注ゲルモノヲモ裝置シタリ、斯クシテ以上ノ培養ヲ續ケタルニ、(一)瓦片培養ハ僅ニ發生シ、(二)土壤培養ハ良ク發生セリ、（共ニ適度ノ濕氣ノ保テル場合ナリ）、蓋シ瓦片培養ノ充分善良ナラザリシハ瓦片ノ表面滑澤ニ過ギタルニ由ルモノナランカ、次ニ水分ノ多少ニ關シテハ多量ノ濕度ハ何レモ發生ヲ妨ゲ、比較的少量ノ濕氣ハ却テ發生ニ可ナルヲ知レリ、又クノップ氏液注入ハ比較材料ヨリモ多少發生ヲ善良ナラシメタルガ如キモ、而カモ其差ハ著甚ナラズ、

予ハ亦故ラニ培養器ヲ乾燥セシメ、土壤ノ粉末狀トナリ、絲狀體ノ枯死セルガ如クナレル後、約一ケ月ニシテ水ヲ注ギタルニ再ビ盛ナル絲狀體ノ發生ヲ惹キ起シ、全ク培養基面ヲ被ヒ、次デ基面ノ諸處ヨリ小サキ莖ノ生ズルニ至レリ、故ニ一旦該蘚ノ發生シタル土壤ハ、乾燥スルモ客易ニ同蘚ノ跡ヲ絕ツモノニ非ザルヲ知ルベシ、

凡ベテひかりごけノ絲狀體ノ密生セル培養器ヲ暗室（寫眞室ノ如キ最モ良シ）ニ齎ラシ、机上ニ載セ、戸ヲ開キ外

植物學雜誌第二十六卷　第三百九號　大正元年九月二十日

ひかりごけノ培養

理學博士　三好學

Miyoshi, M.,—On the Culture of *Schistostega osmundacea* Schimp.

蘚類ノ一種ニひかりごけ (*Schistostega osmundacea* Schimp.) ト云フモノアリ、形態甚小サク、莖ノ長サ一仙米ニ過ギズ、纖細ナル葉ヲ著ケ、莖頂ニハ小サキ子嚢ヲ冠ス、從來歐洲幷ニ北米ニ產スルヲ知レルガ、一昨年（明治四十三年）ノ春、予ハ信州野澤ノ小山海太郎氏ヨリ洞穴内ニ生ゼル發光蘚ノ標本ヲ得、且同氏ノ報告ヲモ受ケタレバ、之ニ就テ其形態ヲ檢シ、且培養ト實驗トヲ施シ、以テ其果シテひかりごけナルヲ知リ、且之ヲ植物生理學上ノ實驗ニ用ヒテ便ナルヲ認メタリ、

ひかりごけハ其絲狀體 (Protonema) ガ陰所ニアリテ一種ノ淡綠光ヲ放ツニヨリテ著甚ナルモノニシテ、歐洲ニテハ古來此蘚ノ洞穴内ニアリテ發光セル現象ヲ認メタルモノアリシモ、未其理ヲ詳ニスルニ至ラザリシガ、去ル千八百八十八年獨逸ノ植物學者ノル (Noll) 氏ハ始メテ該蘚ノ發光ニ就テノ詳細ナル論文 Ueber das Leuchten der Schistostega osmundacea Schimp.(Arbeiten a. d. Botan. Instit. Würz. Bd. III. 1888) ヲ公ニシ、其原理ヲ說明セリ、卽チ該蘚ノ絲狀體ハ洞穴等ノ地面ニ夥シク繁殖シ、纖細ナル絲條ニテ土壤又ハ岩石ノ表面ヲ被ヒ、而シテ、絲狀體ノ球形、楕圓形、長楕圓形等ノ細胞内ニ射入セル光線ハ内部ニテ屈曲シ、光線ノ進入セル側面ト反對ノ側面ニ集列セル葉綠體ヲ照ラシ更ニ亦屈曲シテ外部ニ射出スルニヨリ、該絲狀體ノ細胞ニ特異ノ明滅的弱綠光ヲ放タシムルニ至ルコトヲ證明シタリ、

ニ於テ脫葉シタル樹木モ或ル特別ナル狀態ニ置ク時ハ再ビ同年內ニ於テ芽ヲ開發スル事敢テ難キニアラザルハ先ニヨハンゼン氏及ビモーリッシュ氏ノ實驗ニヨリテ知ラレタル所ナルガ。近著ノ獨逸植物學會報告（Ber. Deutsch. Bot. Gesell. Bd. XXX. Heft 4）ニハ更ニ之ニ關スルジェゼンコ氏ノ簡易ナル一新法掲載セラレアリ、ジェゼンコ氏ハ先ニ種々ノ溶液若シクハ水ヲ芽ニ注射スルカ或ハ單ニ芽ヲ傷クル事ニヨリテ春期ニ於ケル芽ノ開發ヲ促進シ得ル事ヲ發見シタル人ノ一人ナルガ氏ハ同方法ヲ夏期ニ於テ葉ヲ落シタル樹木ニ應用シ見事ニ芽ノ開發ヲ促ス事ヲ發見セリト云フ。

氏ハ注射液トシテ水若シクハ薄キ「アルコール」并ニ「エーテル」ノ溶液ヲ用ヒタリ手術後一週間ヲ經タルニ早クモ一「パーセント」ノ「アルコール」ヲ注射シタル芽ハ開發ヲ始メ以後他ノ手術ヲ施シタル芽モ續々ト開發ヲ始メタリト云フ、

右ノ實驗ハ葉ヲ全部落シタル場合ナルガ葉ノ幾分ヲ殘シ置キタル場合ニ於テハ大ニ其ノ趣ヲ異ニシ例ヘバ右實驗ニ用キタルト同樣ノ植物ノ三十五枚ノ葉ヲ有セル一小枝ヲトリ內二十三枚ノ葉ヲ落シ殘リ十二枚ヲ所々ニ散在セシメ置キ落シタル葉ノ葉腋ニ存スル芽ニ前ト同樣ナル手術ヲ行ヒタルモ何等ノ効果ヲ見ル事能ハズ後チ殘シ置キタル十二枚ノ葉ヲモ全部取拂ヒタルモ最早芽ノ開發ヲ見ル事能ハザリシト云フ、次ニ又多數ノ葉ヲ著生セル同植物ノ一枝ノ葉ヲ唯二枚ダケ殘シ他ハ皆取拂ヒ殘シ置キタル二枚ノ葉腋ニ存スル二個ノ腋芽及ビ葉ノ最早存セザル所々ノ腋芽ニ一「パーセント」ノ「アルコール」ヲ注射シタルニ葉ヲ有セザル腋芽ハ直チニ開發ヲ初メタレドモ葉ヲ有セル二個ノ腋芽ハ毫モ開發ノ徵ナク注射後約一週間ヲ經タル時葉ヲ取ヒ拂ヒタレドモ最早何等ノ効ナカリシト云フ、想フニ葉ノ存在ハ何等カノ方法ニヨリ芽ノ開發ヲ妨グルモノナルベシ、

◎東京植物學會錄事

○退會

小西　和　山科樵作　野口保興

○轉居

東京市本鄕區曙町十番地三號　天田鎌次郎
同　小石川區原町百三十八番地　八木　德三
同　小石川區原町十三番地　岡村　周諦
同　小石川區原町六十一番地　牧野富太郎
東京府豐多摩郡下澁谷六百三番地　安藤喜一郎
同　世田ヶ谷三軒茶屋七十九番地　菊池　秋雄
同　中澁谷三百六十五番地　折下　吉延

其ノ第一ノ場合ハ *Campylopus flexuosus* Brid. ニ於テ見タルモノニシテ、葉ハ中央部ヨリ以上ニ於テ叉分シ、單一ナル中肋ハ二個トナリ、其ノ兩緣ニハ各々狹キ葉舷ヲ有スルコトナリトス。氏ハ此ノ異常葉ハ其ノ葉ノ發育ノ極メテ早キ時期ニ於テ、葉ノ生長點ニ生ジタルアル不慮ノ損害、或ハ何者カノ干涉ニヨリテ生ジタルモノナラント考ヘラレ、決シテ葉ノ組織ガ相當ノ發育ヲナシタル後ニ於テ、中肋ノ過大發育又ハ枝分セルニヨリテ成レルモノニ非ラザルモノトシ、之ガ論據ヲ叉分セル中肋ノ兩緣ニ葉舷ノ存スル所ニ置ケルハ、實ニ適切ナル考ナリト云フベシ。氏ノ見タル斯カル異常ナル葉ハ、人工ヲ以テ試驗的ニ作出シ得ラルベキコトハ、昨年(1911)發行ノ Hedwigia Band LI : Heft. 1/2. P. 1—56. ニ揭載セル Karl V. Schoenau : — Zur Verzweigung der Laubmoose ナル論文ニ詳ナリ。

次ニ第二ノ異常葉ハ *Tortula muralis* Hedw. ニ於テ見ル所ノモノニシテ、其ノ中肋ヲ境トシテ相對スル葉舷ノ一側ハ正規ノ細胞ヨリ構成セラレタリト雖モ、他ノ一側ニ於テハ、通常方形、六邊形、若シクハ長方形ノ細胞ヲ以テ全部ヲ構成セラルベキモノナルモ、是等ノ細胞ハ其ノ基脚ニ近キ所ニ於テ、甚ダ長クシテ葉緣ヲ缺キ、濃褐色ヲ呈セル—中肋ヲ構成セル細胞ト酷似セル—長キ纖維細胞ニヨリテ置換セラレタルモノヲ見タルコトナリトス。氏ハ此ノ異常ナル細胞ノ混在スル原因理由ニツキテハ說明シ能ハズト附記セリ。

岡村云、斯カル特別ナル細胞ガ、通常ナル柔組織中ニ挾在スルモノ、所謂 Idioblast Zelle ナルモノハ、つばきノ蕚片、及なしノ果肉中ニ見出サルレドモ、是等ハ常ニ存在スルモノニシテ、Dixon 氏ガ見タルモノハ、常ニ其ノ種ノ葉ニアルモノニ非ズ、又他ノ蘚類ノ葉ニ於テ見ザル特別ノモノタリ。サレバ其ノ生成ノ起因、作用等ニ於テハ彼此相比較スベキモノニ非ズト雖モ、其ノ相似タル形態ハ、其ノ起因作用等ノ研究上多少ノ參考トナルベキモノナランカ。

○夏期ニ於テ葉ヲ落シタル樹木ノ芽ヲ直チニ開發セシムル一新法

田原正人

樹木ガ昆蟲等ノ害ヲ蒙リ葉ヲ失ヒタル場合ニ於テ正常ナラバ翌年ノ春ニナリテ初メテ開發スベキ芽ヲ同年內ニ於テ急ニ開發スル事アルハ既ニ普ク知ラレタル所ノ事實ナルガヨハンゼン氏ノ研究スルトコロニ據レバ幸ニシテ脫葉ガ初夏ノ候ニ於テ起リタル場合ニ於テハ自然ノ儘打捨テ置クトモ樹木ハ再ビ同年內ニ芽ヲ開發スト雖モ若シ脫葉ガ晩夏ノ候ニ於テ起コリタル場合ニ於テハ決シテ再ビ同年內ニ芽ヲ開發スル事能ハズト云フ。然レドモ晩夏

地ニ採リ余ニ送レタル標品ニヨッテ知ラル。伊豆大島亦之ヲ產スルコトハ今回初メテ知ラレタル所ニシテ、本植物ガ同島ニ於テハ如何ナル場所ニ產シ、如何ナル作用ヲナシツヽアルカハ、本誌第三百六號ヨリ連載セル小泉氏ノ論文『伊豆大島植物地理略』ヲ閱讀セラレタル人ノ既ニ知ラレタル所ナラン。數年前深澤武逸武ガ櫻島舊火口壁ニ本種ノ生ゼルモノヲ採リテ余ニ送ラレタリキ、今小泉氏ガ採集セル三原火山熔岩上ノモノニ接スルニ當テ彼此相似タル生育地ニ於テ、本種ガ如何ニ優勢ヲ以テ繁殖シ、風化ヲ助ケ、高等植物群落形成ノ先驅ヲナシツヽアルカ想起セシム。

二〇、日本ト北米トノ共通蘚類。

本邦北部ニ於ケル「フロラ」ト北米ノ「フロラ」トハ、（兩者ノ間大洋ヲ以テ相隔テラレ、相離ルヽコト遠シト雖モ、）其間ニ密接ナル關係ヲ有スルコトハ、既ニグレー氏ノ唱道セル所ナリ。此ノ兩「フロラ」ノ密接ナル關係ヲ有スルコトハ氏ガ主トシテ高等顯花植物ニツキテ論ジタル所ナリト雖モ、近時本邦ニ於ケル蘚類ノ調查漸次精細ヲ加フルニ及ンデ、蘚類ニ於テモ亦北米ト同種ヲ有スルモノ多キヲ知ルニ至リグレー氏ノ論說ハ高等植物ノミニ止マラズ、蘚類ニモ適用セラルベキコトヲ知ルニ至レリ。近頃飯柴永吉氏ハチヤンバーレン氏ト共ニ日米兩國ニ共通スル蘚類ヲ調查シ、其ノ目錄ハ載セテ The Bryologist 第十五卷第三號頁 39—41 ニアリ。今之ニヨッテ見ルニ、其ノ共通種屬甚ダ多ク、之ヲ算スルニ左ノ數ヲ得タリ。

日米共通ノ蘚類數｛屬數　八六、／種數　二三四、

今一千九百年マデ發表セラレタルモノニツキテゼチラル、バリス氏ガ計算セル日米兩國ノ蘚類數ハ左ノ如シ、

日本｛特產ノモノ……二五三｝計五二二、／｛他國ト共通ノモノ……二六九｝

北米｛特產ノモノ……七一九｝計一四一九、／｛他國ト共通ノモノ……七〇〇｝

前記ノ兩表ヲ比較スル時ハ多少其ノ間ノ關係ヲ知ルニ資スル所アルベシ。モトヨリ兩表ハ前後十年ヲ經タル時代ニ於ケル統計ニシテ、最近十年間ニ於テ本邦ニ新ニ知ラレタル種屬甚ダ多ク、之ニ反シテ北米ニ於テ知ラレタルモノ少キヲ以テ、更ニ新統計ニヨリテ相比較スルノ要アリト雖モ、今其暇ナキヲ以テ暫ク玆ニ舊表ヲ揭ゲテ參考トスルコトヽセリ。

二一　異常ナル蘚類ノ葉。

The Student's Handbook of British Mosses ノ著者トシテ有名ナル英國ノ蘚學者 H. N. Dixon 氏ハ、蘚類ノ葉ニツキテ見タル二ツノ異常發育ノ場合ニツキテ記述セラレタ所、甚ダ興味深キモノナルヲ以テ左ニ其ノ大要ヲ紹介スベシ。

ナルコトヲ知レリ。今熔岩片上ノモノニツキテ其ノ長サヲ算スルニ、僅ニ五「ミリ」ナリト雖モ、他ノ一品ハ全長三乃至四「セメ」ナリ。元來本種ハ其ノ產地ニヨリテ其大サ不同ニシテ、此ノ熔岩片上ニ於ケルモノヽ如キ僅々數「ミリ」ノ大サヨリ、時ニ三十「セメ」ニ達スルコトアリト聞ク。嘗ツテ信陽、大日向全龍氏及ビ坂井辰三郎氏ガ其ノ土、蓼科山中ノ巨巖上ニ採集シ余ニ送ラレタル標品ハ頗ル壯大、余ガ見タルモノヽ中最長ノモノニシテ、十二「セメ」ヲ算シタリキ。有性世代ニ於ケル植物體ノ大サ斯ク區々タルノミナラズ、無性世代植物モ亦大小長短ヲ異ニス。小泉氏採集ノ熔岩片上ノモノニアツテハ、子囊柄ノ長サ三乃至四「ミリ」、《子囊ノ長サ僅々一、二「ミリ」》ニシテ、余ガ今日マデ見タル最短品ナリト云フベシ。然レドモ通常見ル所ノモノニアツテハ、子囊柄五―八「ミリ」ナリトス。本種ガ斯ノ如ク其ノ產地ノ異ナルニ隨ツテ往々斯ノ如ク外觀ヲ異ニシ、甲乙二品ヲ比較スル時ニ當ツテ一見別種ノ想アラシムルコト多シト雖モ、次ニ記セル特徵ニヨリテ容易ニ其ノ異同ヲ判斷シ得ベシ。

『全體ハ乾燥狀態ニ於テ堅シ。莖ハ纖弱ニシテ多數ノ短キ不等長ナル側枝ヲ有ス。葉ハ屢々一側ニ偏向シ、長橢圓狀ニシテ基ニ向ツテ流ル、基脚ヲ有シ、之ヨリ披針狀漸尖頭ヲ有ス、尖頭部ハ缺刻狀ノ鋸齒ヲ有シ、葉緣ヲ缺キ、全ク透明ニシテ此ノ部分ニ於ケル細胞ニノミ乳頭ヲ有シ顯微鏡下ニ美觀ヲ呈ス。子囊柄ハ赤褐色ニシテ乳頭ヲ有シ、上部ハ左旋ス。子囊ハ長等卵形ニシテ口部ニ向ツテ狹窄ス。』

本種ノ子囊ヲ有スルモノハ寧ロ少クシテ、余ガ標品中ニハ本邦產トシテ、小泉氏採品ノ外、唯富士山ニ於テ採集セルモノニ子囊ヲ有スルモノアルヲ見ルノミ。

本種ハ廣ク世界ノ各地ニ產シ、六大洲中其ノ產ヲ見ザル所ナク、蘚類中分布區域ノ最モ廣大ナル優勢種ナリト云ベシ。既ニ知ラレタル產地トシテハ、歐大陸ノ各地、極北地方、スピツベルゲン、及ビ英國ニ產シ、亞細亞ニアツテハ本邦ヲ初メトシ、カムチヤツカ、西比利亞北部タイミユル、エニセイ等ノ各地、シツキム地方、ジヤバ、ニ弘ガリ、亞弗利加ニアツテハマデイラ島ヲ初メ、セントヘレナ島、ケルゲレン等ニ產ス。北米ニアツテハラプラントルノ北部ヨリ合衆國ニ廣ク散布シ、南米ニ於テハ智利、エクアドル、ニユーグランンダ等其他ノ各地ニ知ラル。濠洲ニアツテハ其大陸及ニユジランド、タスマニア等ニ產スト報ゼラル。本邦ニ於ケル分布モ亦至テ廣ク、余ハ未ダ北海道及樺太、千島地方ノ產ヲ知ラズト雖モ、東北地方ニアツテハ、八甲田山、酢川岳、妙高山ヲ初メトシテ大抵ノ高山ニ產シ、日光山、信濃蓼科山、富士山モ亦之ヲ產ス。西南地方ニアツテハ薩摩ノ櫻島ニ知ラレ、大隅ノ屋久島亦之ヲ產スルコトハ理學士工藤祐舜氏此ノ

○ 7. *Synedra vitrea* Ktz.
8. *Cocconeis placentula* var. *tolimeata* Cl.
9. *Diploneis ovalis* Cl.
○10. *Gyrosigma acuminatum* Babh.
○11. ,, *Fasciola* var *tenuirostris* Cl.
○12. *Nitzschia acuminata* Grun.
○13. ,, *Lorenziana* var. *incerta* Grun.
○14. ,, *sigmoidea*.
15. *Surirella splendida* Ktz.
○16. *Actinoptychus notabilis* Brun ?
17. *Pleurosigma rhombeum* Grun.
○18. *Chaetoceros* sp.
19. *Campylodiscus* sp.
○20. *Cerataulus* sp.

以上ノ種名上ニ○點ヲ附セルハ「プレバラート」ヲ送附シ來リシ種類ナリ。其標本ハ予ノ手元ニアレバ會員諸氏中希望者ニハ觀覽ヲ惜マズ。＊記號ヲ附セルハ新種ニシテマイステル氏ハ追テツアハリヤス氏主管ノ Archiv für Hydrobiologie ニ發表スベシト云フ。

以上記述セル所ヨリ判ズルニ本邦湖沼硅藻中最主要ノ位置ヲ占ムルハ Melosira italica Ktz. (=Melosira crenulata Ktz) ナルヲ知ル。近日琵琶湖水產調查報告第一卷ノ圖ニヨリテ考フルニ該湖中ノ主要浮游硅藻モ多分此者ナルガ如シ（小鮎ノ食トナル）此種ノ生態ハ追テ發表スル考ナルモ今茲ニ一言セバ此種ハ冬期ヨリ春ニカケ繁殖スルモノヽ如ク夏期ハ沈存シテ靜穩ナル湖底ニ有機泥氈 (Organisches Filz) ヲ構成スルコト野尻湖ニ於ケルガ如キカ。兎ニ角本邦淡水浮游硅藻中最重要ナル種類ニシテ其研究ハ忽諸ニ附ス能ハザルモノナリ。此種カ汽水性ノ澗沼ニ然モ冬期見出サレザルノ事實ハ亦生態學上注意スベキ所ナラン。

○蘚苔類雜錄（其九）

岡村周諦

一九、伊豆大島熔岩上ノ蘚類。

畏友小泉源一氏本春伊豆大島ニ植物學的研究旅行ヲ試ミラレ、同島所產ノ蘚類二品ヲ採集シ來リテ余ニ檢定ヲ求メラル。其ノ一品ハ拳大ノ熔岩片上ニ著生シ、甚ダ微細ナリト雖モ、全岩片上ニ密ナル蘚氈ヲ形成ス、今ヤ子囊成熟シ、全容一個ノ盆石トシテ實ニ賞玩ニ値スベキモノタリ。他ノ一品ハ紙包ノ中ニアリテ前者ニ比シテ殆ド十倍ノ長サヲ有シ子囊ヲ附ケズ。此ノ兩者ハ一見全ク別種或ハ別屬ノモノナリトノ感アリ。然レドモ之ヲ精查スルニ及ンデ驚クベシ兩者ハ全然同一種ノモノニシテ

Rhacomitrium lanuginosum (L.) Lindb.
=*R. lanuginosum* Brid.

四十四年八月中野採集

1. *Melosira italica* Ktz. 稍多シ
* 2. *Melosira* sp. 稍多シ、絲狀群體ハ螺旋狀ヲナス、新種ナリト云フ
3. *Tabellaria flocculosa* Ktz.
4. *Cynedra longissima* var. *acicularis* Meister.
5. 〃 *tenera* W. Sm.
6. *Asterionella subtilissima* Meister.

箱根蘆ノ湖表面採集ニテ得タル硅藻

四十四年十一月中山氏採集

1. *Melosira italica* Ktz. 最多シ
2. 〃 *varians* Ag. 稀少
3. *Cyclotella comta* var. *radiosa* Grun.
4. *Attheya Zachariasii* Brun. 稍多シ
5. *Tabellaria fenestrata* Ktz. 稍多シ
6. 〃 *flocculosa* Ktz. 稍多シ
7. *Fragilaria Capucina* Desm.
8. *Asterionella subtilissima* Meister. 甚稀
○ 9. *Epithemia gebra* var. *saxonica* Grun.
○ 10. *Rhopalodia parallela*. O. M.
11. 〃 *ventricosa* O. M.
12. *Surirella splendida* Ktz.

甲斐河口湖表面採集ニテ得タル硅藻

四十五年一月中澤毅一氏採集

1. *Melosira italica* Ktz. var. ? 極メテ多シ種名尚判明セズ、
2. *Cyclotella comta* var. *radiosa* Grun.
3. *Attheya Zachariasii* T. Brun. 稀少
4. *Tabellaria flocculosa* Ktz.
5. *Fragilaria crotonensis* var. *media* Schröt. & Vogl. 稍多量
6. 〃 var. *curta* 〃 〃 稀少
7. *Synedra nana* Meiste. 稍多シ
* 8. *Asterionella subtilissima* Meister. 新種
9. *Cymbella Ehrenbergii* var. *deleta* Cl. 稀少
○ 10. *Surirella splendida* Ktz. 稀少

常陸涸沼表面採集ニテ得タル硅藻（此中ニハ多クノ海水性硅藻アリト云フ）

四十五年一月日暮忠氏採集

1. *Melosira undulata* ? 之ニ類スルモ異ル所アリト云フ、
2. *Rhizosolenia stylliformis* Bright. ?
3. *Rhoicosphenia curvata* Grun.
4. *Fragilaria construens* var. *genuina*. Grun.
○ 5. *Synedra pulchella* forma *major* Grun.
○ 6. 〃 *camtschatica* var.

6. *Tabellaria fenestrata* Ktz.
7. *Fragilaria lapponica* Grun.
8. *Synedra tenera* W. Sm.
9. *Asterionella gracillima* Heib.
○10. *Eunotia flexuosa* Ktz.
11. *Achnanthidium lanceolatum* var. *ellipticum* Cl.
12. *Diploneis ovlis* var. *oblongella* Cl.
13. „ *pumila* Cl.
○14. „ *elliptica* Cl.
15. „ „ var. *ladogensis* Cl.
○16. „ *Smithii* Cl.
○17. *Neidium maximum* Meistu.
○18. „ *amphirhynchus* var. *minus* Miestu.
19. „ *dilatatum* Peitzer.
○20. *Caloneis latiuscula* Cl.
21. *Gyrosigma acuminatum* Rabh.
22. *Stauroneis anceps* var. *birostris* Cl.
23. *Navicula cincta* Grun.
*24. „ nov. spec. 極メテ珍種ナリト云フ
25. „ *tuscula* Grun.
○26. „ *Reinhardtii* Grun.
27. „ *placentula* Grun.
○28. „ *vulpina* Ktz.
○29. *Pinnularia viridis* var. *elliptica* Meister.
30. „ *mesolepta* var. *stauroneiformis* Grun.
31. „ *Parva* Greg.
32. „ *major* Rabh.
33. *Gomphonema capitata* Ktz.
34. *Cymbella maculata* Ktz.
○35 „ *cistula* var. *caldostagnensis* Prudent.
36. „ *cymbiformis* Breb.
37. „ *Ehrenbergii* var. *deluta* Cl.
38. *Amphiora ovalis* var. *libyca* Cl.
39. „ „ *gracilis* Cl.
40. *Epithemia sorex* Ktz.
41. „ *zebra* var. *porcellus* Grun.
○42. „ *turgida*. var. *genuina* Grun.
43. „ *Hyndmannii* W. Sm.
○44. *Phopalodia gibba* O. M.
○45. *Nitzschia recta* Hantzsch.
46. *Cymatopleura solea* var. *subconstricta* O. M.
47. „ *vulgari* Meister.
48. „ *turicensis* Meister.
○49. *Surirella Ciseriata* var. *subconstricta* Meister.
50. „ *splendida* Ktz.

信濃諏訪湖七米深度ノ沖合ニテ表面採集ニテ得タル硅藻

包物硝子板上ノ正中（十字點上）ニ移スベシ。其移植ノ個數ハ一又ハ數個トス。ケルレル氏ハ一載物硝子上ニ十八枚ノ小包物硝子ヲ排列セリ。

カクセル後ハ之ヲ乾シ右包物硝子板上ニ一ト二ノ割合ニ混ゼル「トルオル、ベンゾル」混合液ヲ滴下シ其揮發前ニ「ベンゾル」ニテ溶セル稀薄「スチラックス」ヲ注加シ、「ベンゾル」ノ消散ヲ待チ該包物硝子ヲ「ピンセット」ニテ攫ミ之ヲ裏返シ載物硝子ノ中央ニ固定スルニアリ。

此目的ニ用フル硝子ハ良質ノモノヲ用フルハ勿論又清淨ニスルヲ要ス。卽包物硝子ハ之ヲ發煙硝酸ヲ盛レル「エナグラス」器中ニ入レ熱シ約一時間ノ後酸ヲ捨テ蒸餾水ニテヨク洗ヒ後「アルコール」及「エーテル」ニテ洗滌ス。「エーテル」中ヨリ取出シ之ヲ少シ暖メ乾シテ之ヲ密閉セル器中ニ貯フ。

載物硝子板ハ約二「パーセント」位ノ硝酸又ハ鹽酸ニ浸シ後水ニテ洗ヒ之ヲ乾シ鹿ノ鞣皮ニテ摩擦シオクベシ。

○本邦湖沼ノ硅藻ニ就テ

中野治房

瑞西國ホルゲンノ淡水硅藻專門學者マイステル氏ハ先ニ吾教室三好教授ヲ介シ日本湖沼ノ硅藻材料ヲ請求シ來レリ。予ハ之ニ應ジ若干ノ材料ヲ送附シタルニ近日其檢定セル全硅藻ノ名稱及多數ノ美麗ナル單一「プレパラート」ヲ送與セラレタリ。卽之ヲ次ニ報告シ讀者ノ參考ニ資セント欲ス。

硅藻ノ如キ種類ノ多數ナルモノニ於テハ一二ノ書籍ト普通ノ鏡檢法ニヨリテ種名ヲ決定スルガ如キハ極メテ無理ナル事業ニシテ此等ハ經驗ニ富メル專門家ニ委囑スルガ最策ノ得タルモノナルベシ。但シ此種ノ分類學ハ學者ナラザルモ成效シ得ルモノナレバ吾國ニ於テモカヽル好事家ノ輩出センコト切望ニタヘザルナリ。

下總手賀沼、表面採集ニテ得タル硅藻

四十四年五月中野採集

1. *Melosira italica* Kтz. 最多シ
2. *Rabellaria fenestrata* Kтz. 稀少
3. *Eunotia incisa* Greg. 稀少
4. *Cocconeis placentula* Ehrb. 稀少
5. *Gyrosigma acuminatum* Rabh. 稀少
6. *Nitzschia thermalis* Grun.

信濃野尻湖琵琶崎沖三十五年來下底ニ於ケル泥中ノ硅藻

四十四年八月中野採集

○1. *Melosira italica* Kтz. 最多シ
○2. 〃 var. *tenuissima* O. M. 稍多シ
3. 〃 *varians* Tg. 稀少
4. *Cyclotella comta* var. *radiosa* Grun.
○5. *Stephanodiscus astraea* Grun.

ニテ釣ルニアリ。此裝作ハ雨天ニテ室内濕氣ニトメル際成功完全ナリ。何トナレバ眉毛アマリ乾燥セバ釣取レル硅藻ハ落下スルノ恐アレバナリ。

カクシテ釣取レル硅藻ヲ「ベルリン」青ノ環内ニ附著セシメ之ヲ熱セル銅板上ニ乾シ「トルオル」又ハ「ベンゾル」ノ一滴ヲ加ヘ「スチラックス」ヲ以テ封ズ、包物硝子ハ十「ミリ」直徑ノモノヲ用フ。

材料若シ極メテ不純ナルカ又ハ泥中ノ硅藻ヲ「プレパラート」トナサントスル時ハ最初ニ之ヲ鹽酸ニテ處理シ石灰等ヲ去リ更ニ發煙硝酸ニテ煮有機物ヲ燒クヲヨシトスマイステル氏ハ更ニ他方法ヲ採用シ好結果ヲ得タリト云フ。例ヘバ鹽酸ヲ材料ニ多量ニ加ヘ此中ニ鹽酸加里數片ヲ入レル時ハ發生スル鹽素ハ原形質等ヲ破碎シ殻ヲ透明ナラシムベシ。

鹽素及酸等ハ後ヨリ蒸餾水ニテ洗フベシ。

此淨化裝作ハ極メテ注意ヲ要スベク酸ノ作用アマリ激シキ時ハ殻ヲ腐蝕スルニ到ルコトアリ。

ケルレル氏ノ製作法

此方法ハ稍特別ノ器具ヲ要スルモ精巧ナルコト比ナシト云ハル。而シテ其器具モ割合ニ廉價ニ販賣セラルヽモノナレバ實業者ニ向テハ何等ノ苦トナルモノニアラザルベシ。氏ノ方法中尤重要ナル器具ハ顯微鏡臺ニ附著セシムベキ可動臺トス。其價二十「フラン」ナリト。

此臺ハ左右ノ二軸及前後ノ二軸ヨリナリ。前方及右方ニハ「ミリ」米ノ度ヲ刻メリ。此軸内ニハ左右ニ動シ得ベキ板アリ。此板ハ載物硝子ヲ乘スルモノニシテ板ノ前方及右方ニハ記號アリテ周圍ノ軸上ノ度ト合セ該板ノ位置ヲ定ムルニ便ナラシム。其他ノ器具及藥品ハマイステル氏法ト大同小異トス。今之ヲ簡單ニ紹介セン。

先ヅ載物硝子上ニ材料ヲ分散シ之ヲ乾燥ス。此際硝子板ノ右方十五「ミリ」計ノ空地ヲ殘シ置キ此所ニ包物硝子ヲ蒸餾水ニ附著セシム。此包物硝子板上ニ石油ト「エーテル」ノ混合物ヲ滴下ス。カクセル後載物硝子ヲケルレルノ可動臺上ニ乘セ低度ノ鏡力ニテ窺ヒツヽ豚ノ眉毛ニテ欲スル硅藻ヲ釣リ直ニ臺上ノ板ヲ左方ニ引出シ載物硝子上ノ包物硝子ガ視野ニ來ル如クシ。眉毛上ノ硅藻ヲ此上ニ移スベシ。此裝作ヲ終ラバ直ニ引出セル板ヲ臺上ノ度數ニヨリテ原位置ニ復シ更ニ右方ニ觀察ヲ繼續ス。斯クシテ載物硝子上ノ全硅藻ノ觀察ヲナシ得ルモノナリ。

此包物硝子、上ニ移セル硅藻ハ直ニ永久標本トスルニアラズ更ニ之ヨリ第二ノ撰擇ヲナス。

先ヅ十字線ヲ劃セル載物硝子板ヲトリ此十字交叉點ニ小ナル赤包物硝子ヲ規則正シク「フエノール」水ニテ附著セシム。而シテ包物硝子上ニ各附著劑ノ一滴ヲ滴下ス。

載物硝子上ノ左端ニハ前ニ略式撰擇ヲナセル包物硝子板ヲ水ニテ附著セシメ前ノ如ク此板上ノ硅藻ヲ右方ノ小

ス。

其方法ハスイッツル國ノ硅藻專門學者マイステル氏ノ新著「瑞西國硅藻」ナル書ニヨル。

マイステル氏ノ「プレパラート」製法

此方法ハ別ツテ二法トナス。

一、混合「プレパラート」(Das Gemmel-präparat) 製法。

此法ハ他生物ヲ共ニ「プレパラート」中ニ封入スルノ方ナリ。先ヅ材料保存液ヲ捨テ之ヲ蒸餾水ニテ代ヘ之ヲ振盪スルモ透明ナルノ程度ニ多量ノ水ヲ加フ。此一滴ヲ硅藻ト共ニ能ク洗滌セル載物硝子上ニトリ之ヲ徐々ニ蒸發セシム。此裝作ハ瓦斯又ハ「アルコール」燈ニテ熱セル銅板上ニテ行フヲヨシトス。後載物硝子板ヲ冷却シ之ニ「トルオル」又ハ「ベンゾル」ノ一滴ヲ滴下シ其揮發セザル前ニ濃厚ナル「スチラックス」(Styrax) 七滴ヲ注加シ之ヲ包物硝子板ニテ閉ヅ。「スチラックス」モシ濃厚ナラザレバ之ヲ乾スノ必要アリ。斯クシテ製セル「プレパラート」ハ之ヲ三〇「センチメートル」平方ノ鐵板上ニ乘セ乾燥器又ハ太陽光線ノ照射ヲ受クル銅板上ニ數日間放置シテ固結セシメ油浸裝置ヲ以テ窺フニ便セシム。

二、單一「プレパラート」(Das Einzel-präparat) 製法

此方法ハ少クモ硅藻一種ノミヲ封入スルノ方法ニシテ封入セル硅藻ノ個數ハ一個又ハ數個トス。之ヲ行フニ必要ナルハ豚ノ眉毛又ハ睫毛ヲ五—八「ミリ」米ノ長ニ切リ之ニ木ノ柄ヲ付シタル器具ナリ。之ハ各自容易ニ作リ得ベシ。

他方ニハ載物硝子大ノ「ボール」紙ノ中央ニ二—三「ミリ」米ノ圓ヲ畫キ此上ニ載物硝子ヲ乘セ筆ニ「ベルリン」青色素ヲ含マシメ「ボール」紙上ノ圓形ニ沿ヒ硝子上ニ圓ヲ畫クベシ。

此色素乾燥スルヲ待チ次ノ附著劑ヲ「ベルリン」青ノ環中ニ塗ルベシ。

一、魚膠一瓦。
　蒸餾水百瓦

「フエノル」一瓦
　氷醋酸一瓦

又ハ次ノ液ヲ用フルモヨシ
　粉末「トラガント」一瓦
「アルコール」十瓦
　蒸餾水七十瓦
　純粹「リスリン」七十五瓦

以上ノ附著劑ヲ乾燥セシメバ準備既ニナレルナリ。カクシテ愈封入ニ取掛ルベシ。

先ヅ保存液ヲ蒸餾水ニテ置換シ之ヲ振盪シ載物硝子ニ其一滴ヲトリ之ヲ平均ニ分散シ乾燥セシム。之ヲ低度ノ鏡(接物鏡3)ニテ窺ヒツヽ欲スル硅藻體ヲ前記ノ豚ノ眉毛

多ク今又之ヲ本邦ニ見ルハ北米ノ北部ト日本トノ植物區系ノ類似セルコトニ一事項ヲ加フルモノナルガ昨年小生ガ日本槭樹科植物誌ヲ記セシ時ニハ未該樹ノ本邦ニ自生スルヲ知ラザリシモ本土ノ中部ニはなのきノ殘裔アリト記シタルハ往古本邦邊ニハはなのきノ自生セシコトヲ想像セルニヨレリ

現世ニ於テはなのきガ北米ト日本々土ニ產スルコトニ就テハ別ニ奇ナルコトナシ此ニ現世ニハ產セザレドモ第三紀ノ漸新世以來廣ク現今ノ北半球地方ニ分布セシ Acer trilobatum, A. Braunii ナルモノアリ此化石種トはなのきトハ其區別點甚著シカラズ前者トスルモノ、內ニハ必ヤ後者ヲ混ゼシコト、察セラル、サレバはなのきハ普通化石種トシテ認メラレザレドモ之亦漸新世以來存在セルモノト考ヘ得、前者ノ化石ハ日本々土內ニハ未發見セラレザレドモ其最近キ產地ハ樺太ノ中新層ナリ、漸新世ニハ現今ノ日本群島ハ亞細亞大陸ノ東緣邊ヲナシ全然陸地續キニシテ亞細亞東端亦北米大陸ト連續セリ、サレバ當時北米球ニ廣ク分布ヲナセシはなのきガ當時ノ本邦邊ニモ分布シテ今ハ僅ニ日本々土ニ餘裔ヲ殘シ北米ニハ尙盛ニ生殘シアルモノト考ヘ得ベシ。

然ルニ本年三月名古屋市ノ山本岩二氏ヨリ後藤定治氏ガ美濃國惠那郡坂本村ニ於テはなのきノ自生セルヲ發見セシ由通知アリシニヨリ後藤氏ニ紹介セシニ同氏ハ報ジテ曰ク中津町ヲ西ニ一里十丁程坂本村ナル街道ヨリ二丁入リタル濕地ノ雜木林中ニアリ大キサ最大ナルハ五尺小ナルハ一握リ位ニ至ル數本アリ尙中津町西北二十丁ナル林地ト田トノ間ナル稍濕地ニ周圍八尺高十二米突位ノモノアリテ土人ハめぐすりのきト云ヒ其皮ヲ剝ギ煎ジテ目藥トナスト、

北米ニテモはなのきハ濕地ニ多シト云フ小生ハ未本邦ノ自生ノ狀ヲ見ザレドモ美濃ノ自生はなのきハ亦濕地ニ生ズト云フ其性ヨク符合スト云フベシ

北米產はなのきハ頗ル多形ナルモノナルガ本邦產亦葉形及ビ毛ノ狀態ニ於テ多形ヲ示スサレバ日本產ノモノハ北米產ノモノト、變種トナスベキヤハ尙研究ヲ要スルナランモ名古屋市ノ山本岩二氏ヨリ送ラレシ栽培標本ニヨレバ北米產ヨリハ花盤ノ發達宜シキ方ナリ、終ニ有益ナル標本ヲ送ラレシ山本岩二後藤定治、成田淸一ノ諸氏ニ深ク感謝ス。

○硅藻「プレパラート」製作法ニ就テ

中野治房

硅藻ノ分類ヲナスニハ精巧ナル「プレパラート」ヲ作リ其殼ノ構造ヲ窺フノ必要アリ。又混合物中ヨリ只一種ノ硅藻ヲ分離シテ「プレパラート」トナスハ新種等ノ觀察ヲ精密ニシ得ル等ノ便アルヲ以テ以下其方法ヲ示サント

至五「センチメートル」、高サ二乃至二・五「センチメートル」アリ、内面ハ黑褐色ニシテ、外面ハ白色ヲ帶ブ、八裂子嚢ハ圓柱狀ニシテ、長サ〇・三五「ミリメートル」、幅一三〃アリ、中ニ八子ヲ藏ム、八裂子ハ楕圓形、平滑ニシテ大キク、長徑一七〃、短徑一〇〃アリ、線狀體ハ絲狀ヲ呈シ、先端膨ル、三河國幡豆郡、横須賀村ニ產ス、松崎宇一氏ノ採集ニ係ル。

○ちやこぶたけ(新稱)

Daldinia concentrica (Bolt.) Ces. et de Not.

(所屬)　眞正嚢菌門、眞正嚢菌區、核菌亞區、苺斑葉病菌群、くろさいはいたけ科、くろこぶたけ亞科。

子座ハ大キクシテ、略ボ球形ヲ呈シ、無柄ナリ、直徑一乃至二「センチメートル」アリ、時ニハ頗ル大ナルモノアリ、表面ハ平滑ニシテ、黑褐色ヲ帶ビ、内部ハ織維狀ヲ爲シ、許多ノ求心的輪層ヲ有ス、被子器ハ子座ノ表層中ニ埋設シ、孔緣ハ突出セズ、八裂子嚢ハ圓柱狀ニシテ、柄ヲ具ヘ、八子ヲ藏ム、八裂子ハ一細胞ヨリ成リ、褐色ヲ呈ス、線狀體ハ絲狀ナリ、上州赤城山ニ產ス、角田金五郎氏ノ採集ニ係ル、本品ハ曩ニあかこぶたけト命名セシモ、子座ノ黑褐色ヲ呈スルヨリ、本名ニ改ムルノ適切ナルヲ覺ユ。

○重テ臘梅ノ原產地ニ就テ

松田正久

本誌第二十一卷二二五頁及二十四卷二四四頁ニ於テ臘梅ノ原產地ニ就テ報告スル所アリ且此植物カ眞臘國ヨリ支那ニ入リタリトノ說ノ疑ハシキコトヲモ報告セリ今又佛人富賀兩氏(Finet, A. et Gagnepain, F.)ノ報ズル所ニ據レバ其檢定シタル臘梅ノ標本ハ義昌(湖北)、Ichen-keen(四川)及厦門ニテ採取セラレタルモノナリ而シテ厦門ノ標本ハ栽培ノモノ四川ノハ自生、湖北ノハ明記ナキモ略自生ナラント思ハル此報告ニ據リ臘梅ノ原產地ハ中部支那ナルコト一層明確トナレリサレドモ厦門ニ栽培品アルヲ見レバ此種ハ中部支那ヨリ早ク眞臘ノ如キ南方ノ地ニ移植セラレタルコトモアリ得ベシ而シテ臘梅ガ支那ニテ一般ニ觀賞セラルヽニ至リシハ漸ク北宋ノ頃ヨリナレバ原產地ヨリ先ヅ南方ニ移植セラレ轉ジテ支那ニ廣ク栽培セラレタリト考フルモ亦牽强ニアラザルベシ

○はなのきニ就テ

小泉源一

美濃、尾張、近江ノ諸國ニハ往々はなのき(Deer nilemu, L.)(一名はなかへで、めぐすりのき)栽培サレ又ハ神社ノ境内ニ古木アリ、元來はなのきハ北米ノ東半部ニ自生

雜錄　○重テ臘梅ノ原產地ニ就テ　松田　○はなのきニ就テ　小泉

Polystictus Perzoonii Fries.

(所屬) 基菌門、眞正基菌亞門、同節基菌區、幡菌亞區、さるのこしかけ科、さるのこしかけ亞科。

菌傘ハ無柄ニシテ、半圓形ヲ呈シ、革質ヲ帶ブ、長徑四乃至八「センチメートル」、短徑二・五乃至五「センチメートル」アリ、但シ大ナルモノニ至テハ、長徑一三「センチメートル」、短徑七「センチメートル」ニ達スルモノアリ、表面ハ煉瓦色ニシテ、白色或ハ黃色ノ廣キ緣邊ヲ有シ、且ツ放射狀ノ皺襞ヲ具ヘ、著シカラザル輪層ヲ帶ブ、裏面ハ黃白色ニシテ、菌管ノ孔ハ圓ク、後ニ往々迷路狀ヲ爲ス、菌傘ノ實質ハ黃白色ナリ、本菌ハ熱帶地方ニ普通ナル品種ナリ、仙臺林地ノ切株上ニ生ズ。

○かうもりたけ(新稱)

Polyporus dispansus Lloyd.

(所屬) 同上。

子實體ハ柄狀ノ基部ヲ有シ、數多ノ菌傘ヲ分枝ス、菌傘ハ薄クシテ不規則ニ擴ガリ、直徑約四乃至六「センチメートル」アリ、表面ハ黃色ニシテ、微鱗ヲ被ムリ、緣邊平滑ナリ、裏面ハ黃褐色ヲ呈シ、菌管ノ孔ハ小サシ、基子ハ平滑ニシテ、直徑三・五乃至四〃アリ、仙臺ノ林地ニ生ズ、本品ハロイド氏ノ命名ニ係レル、えぶりて屬(Polyporus)ノ一新種ナリ。

○きかひがらたけ(新稱)

Lenzites sepiaria (Wulf.) Fries.

(所屬) 同上。

菌傘ハ無柄ニシテ、半圓狀ヲ爲シ、栓質ヲ帶ブ、長徑四乃至五「センチメートル」、短徑三乃至四「センチメートル」アリ、表面ハ黃褐色或ハ栗褐色ニシテ、淡褐色ノ緣邊ヲ有シ、粗糙ニシテ輪屬ヲ具フ、裏面ノ菌褶ハ革質ヲ帶ビ、往々枝ヲ分チ、銹褐色ヲ呈ス、菌傘ノ實質ハ褐色ナリ、仙臺ノ林地ニ生ズ。

○ひめきかひがらたけ(新稱)

Lenzites striata Swartz.

(所屬) 同上。

菌傘ハ無柄ニシテ、半圓狀ヲ爲シ、栓質ヲ帶ブ、一般ニ前種ヨリモ小サク、長徑二・五乃至四「センチメートル」、短徑一・五乃至二・五「センチメートル」アリ、表面ハ黃褐色或ハ灰褐色ニシテ、天鵞絨樣ノ密毛ヲ被ムリ、輪層ヲ具フ、裏面ノ菌褶ハ細カクシテ、往々網狀ニ連結シ、灰褐色ヲ帶ブ、菌傘ノ實質ハ褐色ナリ、仙臺ノ林地ニ生ズ。

○しはちやわんたけ(新稱)

Peziza sulcata Pers.

(所屬) 眞正囊菌門、眞正囊菌區、茶椀茸亞區、ちやわんたけ科。

子實體ハ椀狀ヲ爲シ、緣邊時ニ淺裂ス、太キ短柄アリテ、外面ニ數條ノ深キ溝ヲ具フ、子實體ノ直徑二・五乃

ニ著シキ變化ヲ生ズ、而シテ核内ノ變化ト中心體ノ位置トハ極メテ密接ノ關係ヲ有シ恰モ中心體ノ位置ガ核内ノ變化ヲ左右スルガ如キノ觀アリ、卽チ滅數分裂ノ初期ニ於テ常ニ見ル所ノ「シナプシス」期ニ核ガ到達セル際ニ於テハ中心體ハ最初ノ位置ヨリ丁度九十度ヲ廻轉シ核ト中心體ハ同一ノ高サヲ占ムルニ到ル、此ノ際ニハ既ニ核ハ全ク球狀ヲナシ中心體ニ面シタル部ハ全ク空虛トナリ反對ノ處ニ念珠狀ヲセル核紐錯綜シテ堆積ス、次デ中心體ハ再ビ原位置ニ向ヒテ廻轉シ「シナプシス」ノ期終ニ於テ全ク原位置ニ復ス玆ニ奇ナルハ此ノ狀態ニ達シタル核ハ中心體ニ向ヒ短カキ突起ヲ出シ恰モ中心體ノ爲メニ核ノ一部牽引セラレタルガ如キ觀ヲ呈スルノ一事ナリ、

後チ中心體ハ圓筒狀ノモノニ變形ス、當初ハ圓筒ノ直徑短カク圓筒ノ兩端ヨリハ明ニ星線ノ射出スルヲ見ルト雖モ後チ圓筒ノ直徑急激ニ增大スルニ及ビ星線ハ全ク其ノ影ヲ潛メ之ニ伴ヒ核内ニモ亦變化起リ核紐斷絕シテ桿狀ノ百二十乃至百三十ノ染色體ヲ形成ス、後チ染色體ハ二個宛互ニ相接合シ約六十五ノ所謂複合染色體ヲ形成ス、次デ核膜消滅シ核ノ直徑ト略ボ同ジ長サニ達シタル中心體ノ變形ナル圓筒體核ノ中心ニ其ノ位置ヲ占メ其ノ中央部ヲ取リ圍ミテ複染色體ノ團塊ヲ生ズ、此ノ狀態以後ハ染色體數ヲ再ビ精細ニ勘定スル事殆ド不可能ナルノミナラズ染色體ノ行動ヲモ明瞭ニ觀察スル事能ハズト雖モ複染色體ノ團塊ハ圓筒體ノ兩端ニ分レ次デ再ビ分裂起リ終ニ四個ノ娘核ヲ形成スルニ到ル、四個ノ娘核ハ其ノ外觀當初ハ全ク異ナル所ナシト雖モ後チ内一個ハ急激ニ其ノ大サヲ增シ特ニ著大ノ核トナリ四個ノ核内ニ明瞭ナル分化ノ現出ヲ見ルニ到ル、

要スルニ本研究ハ未ダ不充分ナル點存セザルニアラズト雖モ兎モ角モ增大胞子形成ニ先立ツ所ノ四分子分裂ガ滅數分裂ナル事ヲ證明スルニハ略遺憾ナキガ如クニ思考セラル、之ヲ近時研究セラレタル接合藻類ノ場合ト比較スルニ彼レニ於テハ滅數分裂ハ接合ノ直後ニ於テ行ハルヽニ反シ本類ニ於テハ接合前ニ於テ行ハル、換言スレバ接合藻類ノ營養體ハ單數ノ染色體ヲ有シ硅藻類ノ營養體ハ複數ノ染色體ヲ有スルナリ、因ニ記ス、硅藻ノ染色體數ハ皆本種ニ見ル如キ多數ノ染色體ヲ有スルモノニアラズシテクレバーン氏ニ據レバロバロディアノ如キ染色體ノ原數僅ニ四ナリト云フ (M. H.)

◎雜　錄

○菌類雜記（九）

安田篤

○れんぐわたけ（新稱）

說ニヨレバ Thunberg. 原記載ハ實ニ兩種（抄錄者推察スルニハ此ノ兩種トハしりぶかがし、トまてばしいヲ意味ス）ヲ混合セルモノナリ、而シテ Thunberg ノ記載ハ牧野氏ノ言ヘルガ如ク (*P. thalassica* ニ一致セズト云ヘリ故ニ著者ハ *P. edulis* Mak ヲ採用セズシテ *P. glabra* Oerst ヲ襲用セリ、次ギニ著者ハ *P. Konishii* (Hay.) ヲ論ジテ *P. Cyguea* ニ最モ近キモノナリトセリ

著者ハ終リニ植物地理學研究ニ論及シテ先ヅ夏綠樫地方 (Gebiet der ausschliesslich sommergrünen Eichen) 及ビ夏綠及ビ常綠樫地方 (Gebiet ausschliesslich sommer- und wintergrünen (Quercus-Arten) 及ビ常綠樫柯地方 (Das Gebiet der wintergrünen Cyclobalanopsis- und Pasania-Arten) ニ分チテ琉球及ビ臺灣ハ此ノ條下ニ屬セシメタリ、次ギニ各地方ノ植物區ヲ構造スル原素ニ就キテ論ジ最後ニ各地方ニ於ケル森林種類ノ分布ヲ一ツノ表トシテ列記セリ

（早田）

○カールステン氏『スリレラ、サクソニカノ增大胞子造成ノ際ニ於ケル減數分裂ニ就テ』

Karsten, G.:— Über die Reduktionsteilung bei der Auxosporenbildung von *Surirella saxonica* (Zeitschr. für Bot. Bd. IV. Heft. 6. 1912.)

スリレラ、サクソニカハ硅藻類ノ一種ナリ、硅藻類ノ增大胞子造成ニ關シテハ本著者幷ニクレバーン氏等ノ詳細ナル研究既ニ公ニセラレ之ニ關スル吾人ノ知識ハ敢テ乏シキニアラズト雖モ增大胞子造成ニ先チ起コル所ノ彼ノ四分子分裂ナルモノガ果シテ減數分裂ナルカ否カノ疑問ニ到リテハ今日迄未ダ何等ノ解決ヲ見ル事ヲ得ザリシナリ、著者久シク此ノ點ニ注目スル所アリシガ遂ニ今回本研究ヲ公ニセリ、結果ノ大要ヲ左ニ抄錄スベシ（硅藻類ノ增大胞子造成ノ方法ハ既ニ普ク知ラレタルガ如ク種類ニヨリテ決シテ一樣ノモノニアラズ、スリレラ、サクソニカニ於テハ增大胞子造成ニ與ルベキ二個ノ個體ニ各々胞子造成ニ先チ核ノ四分子分裂行ハレ一個體內ニ四個ノ核ヲ藏スルニ到ル、而シテ此ノ四個ノ內一個ダケハ特ニ著大トナリ此ノ核ノミ他個體ノ核ト癒合シテ增大胞子ノ核ヲ形成シ他ノ小形ノ三個ノ核ハ全ク敗滅ニ歸スルモノナリ）

本硅藻ハ概形長橢圓盤狀ヲナシ一端ハ他端ニ比シ少シク廣濶ナリ其ノ兩端ニハ大ナル水泡ヲ具ヘ中央ニ原形質、帶狀ヲナシテ存在シ其ノ內ニ一個ノ核ヲ有ス、休止狀態ノ核ハ腎臟形ヲナシ凹陷部ヲ廣濶ノ端ノ方ニ向ケ此處ニ一個ノ中心體ヲ具フ。最初核ノ內部ハ顆粒狀ヲナスト雖モ四分子分裂ヲ行フニ當リテ核內ノ構造及ビ中心體ノ位

以上ヲ通覽スルニ本科中東亞ニ產スルモノ約七十三種ニシテ日本ニノミ產スルモノ若クハ日本支那ヲ通ジテ產スルモノ約十四種ナリ（松田）

（一）シヨッキー氏『熱帶圈外ノ東亞細亞產櫟類及ビソノ植物地理學上ノ價値』

Schottky E.:— Die Eichen des Extratropischen Ostasiens und ihre Pflanzengeographische Bedeutung. (Engl. Bot. Jahrb. Bd. ILVII. 1912, pp. 617—707 tt. XXXVII—XXXVIII.)

著者ハエレグレル敎授ガ曩ニナシタル天南星科植物ノ植物地理學ノ價値ト題スル論文ニ因ミテ之レト同一ナル研究ヲ東亞產ノ櫟類ニ就キテ試ミントセリ著者ハ此論文ニ於テ先ヅ分類學上ノ研究ヲ試ミ次ギニ植物地理學上ニ論及シテ內外ノ形態學上ノ特質ヲ研究シ最後ニ櫟類ノ植物地理學ノ價値ニ論及セリ

著者ハソノ分類學上ノ部ニ於テ櫟類各屬ノ各自ノ關係ヲ論ゼリ著者ノ考ニヨレバ通常櫟類ト稱セラルヽモノハ實ニ下ノ五屬ヨリナル卽チ *Pasania*, *Castanopsis*, *Castanea*, *Cyclobalanopsis*, *Quercus* 之レナリ以上五屬ノ系統ヲ考究スルトキハ *Pasania* ハ最モ祖先ノ本統ニ近キモノニシテ之ヨリ *Quercus*, *Cyclobalanopsis* ヲ生ジ他方ニハ *Castanopsis* ヲ分岐セシメ而シテ *Castanea* ハ *Castanopsis* ヨリ分レタルモノナラント、著者ハ *Pasania* ハ *Quercus* ヨリ當然離スベキモノナリトノ意見ヲ有セリ各論ニ於テハ先ヅ *Quercus* ヲ詳論シテ各種ニ附キテ批評的見解ヲ下セリ次ギニ *Cyclobalanopsis* ヲ詳論シ吾人ガ通常 *Quercus pachyloma*, *Q. acuta*, *Q. sessilifolia*, *Q. Championi* ト稱スルモノハ皆 *Cyclobalanopsis* ニ屬スベキモノナリトセリ著者ハ各種ヲ詳論スルニ當リテ大凡ソ種類ハ熱帶ニ至ルニ從ヒテ各自ノ變化性 (Individuelle Variabilität) ヲ增加シ寒帶ニ至ルニ從ヒテソノ性ヲ著シク減少スト云ヘリ

著者此ノ條下ニ於テ *C. myrsinifolia* (Bl) Schky ハ *C. ribrayana* Schky ト同一物ナルコト及ビ *C. salicina* Schky ハ *C. myrsinifolia* ト同一ナルコト *C. stenophylla* (Makino) 及ビ *C. stenophylla* var. *salicina*. 及ビ *C. longinux*, *C. pseudomyrsinifolia*. ハ極メテ近キモノニシテ親シク標本ヲ目擊スルニアラザレバ分ツコト能ハズトセリ

次ギニ著者ハ *Pasania* 屬ノ各種ヲ詳論シテ該屬種百五拾種ヲ算セリ、此ノ條下ニ於テ抄錄者ガ記載セシトコロノ *Quercus lepidocarpa* Hay. (Mater. Flora of Formosa P. 291) ハ特ニ注意スベキモノナリトセリ之レハ *P. Wilsonii* ニ類似スルモノニシテ甚ダ興味アル地理的關係ヲ示スモノナリトセリ

著者ハ *P. glabra* (Thunb) Oerst ヲ評論スルニ當リテ牧野氏ノ說ヲ引用シ之ニ贊成スルコト能ハズトセリ、著者ノ

アルノミ

此屬ニ著者七種ヲ算ス (I. Tashiroi Max. ヲ加フレバ八種ナルモ著者ハ之ヲ遺セリ) 內日本ニ產スルハ I. anisatum L. (= I. religiosum Sieb. et Zucc.) しきみナリ I. verum Hook. ニ關シテハ著者ハ東京 (Ton-kin) ニテ栽培品ヨリ得タル標本ヲ見ルモ其種ガ支那本部ニ產スルカ否ハ未決ナルガ如シ按ズルニ J. D. Hooker 氏ニ從ヘバ此種ハ「スターアニス」ノ母植物ナリ (Bot. Mag. t. 7005)

(3)　木蘭族中ニ五屬ヲ算ス

A. **心皮ハ熟スルトキニ翼ヲ生ゼズ葉ハ卵形又ハ楕圓**

a. 雌蕊托ニ柄ナシ (Gynophore sessile)

○各心皮ニ胚珠二個心皮熟スルトキ木質

Talauma

○○各心皮ニ胚珠二個又ハ以上、心皮革質

△熟果ハ卵形、毬果狀 (strobiforme)

Manglietia

△△果實穗狀 (spiciformé)

Magnolia (木蘭屬)

b. 雌蕊托ニ柄アリ (Gynophore stipité)

Michelia (おがたま屬)

B. **心皮熟スルトキ翼ヲ生ズ葉ハ方形、平截**

Liriodendron (木百合屬)

Talauma 屬ニ六種ヲ算ス皆日本ニ產セズ

Manglietia 屬ニ五種ヲ產ス亦日本ニ產セズ

木蘭屬ニ十四種ヲ算スほおのき (Magnolia hypoleuca Sieb. et Zucc.) こぶし (M. Kobus DC.) たむしば (M. salicifolia Max.) おほやまれんげ (M. parviflora Sieb. et Zucc.) 等ハ日本ニ產ス其他玉蘭 (M. conspicua Salisb.) 木蘭 (M. obovata Thunb.) ノ如キハ著者日本ニ產スルコトヲ記スレドモ是レハ前人ノ誤ヲ踏襲シタルモノナラン

おがたま屬ニ十九種ヲ算ス其內日本內地ニ產スルハおがたま (Michelia compressa Max.) アルノミ

木百合屬ニハ Liriodendron Tulipifera L. var. chinense Hemsl. アルノミ四川省ニ產ス按ズルニ此屬ハ現今知ラレタルモノ僅ニ一種ニシテ標準品 (type) ハ北米ニ產シ變種ハ支那ニ產ス分布上注目セラル、所ナリ支那ニテハ四川ノ外江西ノ廬山ニアリトノ報アリ歐洲ニテハ化石トシテ出ヅ

(4)　朝鮮五味子族中ニ二屬ヲ算ス

A. **心皮熟スルトキ穗ヲ成ス** Schizandra (朝鮮五味子屬)

B. **心皮熟スルトキ頭狀ヲ成ス** Kadsura (さねかづら屬)

朝鮮五味子屬ニ六種ヲ算ス日本ニ產スルハ朝鮮五味子 (Schizandra chinensis H. Baill.) まつぶさ (S. nigra Max.) ノ二種ナリ

さねかづら屬ニモ六種ヲ算ス日本ニ產スルハさねかづら一名びなんかづら (Kadsura japonica Juss.) ノミナリ

抄錄者ノ萊府ニ在ル本論文ノ著者ミーエ氏ト交遊益ヲ受クルコト頗ル多シ、本論文ニ掲グル所ノ諸項モ亦當時親シク其所說ヲ聽キ其標品ヲ視ルヲ得、窃ニ氏ガ犀利ノ觀察ニ推服セリ、今抄錄ノ筆ヲ擱クニ當リ敢テ一言謝意ヲ表スト云爾。　(K. Y.)

○富、賀二氏『東亞ノ木蘭科植物』

A. Finet et F. Gagnapain,—Magnoliacées. (Bull. de la Soc. Bot. Memoires 4. pp. 23—54)

富、賀二氏ハ東亞ノ植物ヲ研究スルコト久シ數年前ニ木蘭ニ關スル研究ノ結果ノ報告アリ今其梗概ヲ左ニ鈔錄ス Engler 氏ノ分類法ニ遵ヘバ木蘭科ハやまぐるま科 (Trochodendraceæ) ト分離シタルモ本著者ハ此法ニ遵ハズ蓋シ別ニ見ル所アル歟先ヅ本科ヲ分ツテ左ノ四族トセリ

A. 瓣ヲ缺クモノ　(1) やまぐるま族 (Trochodendrées)

B. 瓣ヲ有スルモノ

a. 心皮硬質ノモノ

○心皮輪生スルモノ

(2) しきみ族 (Winterées)

○○心皮延長シタル花托上ニ螺旋狀ヲナスモノ

(3) 木蘭族 (Magnoliées)

b. 心皮漿果質ノモノ

(4) 朝鮮五味子族 (Schizandrées)

(1) やまぐるま族中ニ五屬ヲ算ス

A. 花被ヲ缺クモノ　Eucommia

a. 心皮一胚珠一

b. 心皮多數胚珠多數

○心皮分離ス翅果樣 Euptelea (ふさざくら屬)

○○心皮基部ニテ合體ス翅果樣ナラズ Trochodendron (やまぐるま屬)

B. 花被ヲ有スルモノ

○心皮分離シ花柱熟果ノ頂ニ位ス Cercidiphyllum (かつら屬)

○○心皮ハ基部ニテ合體シ花柱ハ熟果ニテ基部ニ偏ス　Tetracentron

Eucommia 屬ニ E. ulmoides Oliv. 一種アリ支那ニ產ス

ふさざくら屬ニ四種アリ其一ハふさざくら (Euptelaea polyandra Sieb. et Zucc.) ニシテ日本ニ產ス

やまぐるま屬ニ一種アリ卽 Trochodendron Aralioides Sieb. et Zucc. やまぐるまニシテ其變種 var. longifolium Max. ト共ニ日本ニ產ス

かつら屬ニモ一種アリ卽 Cerdiphyllum japonicum Sieb. et Zucc. かつらニシテ日本及支那ニ產ス

Tetracentron 屬ニハ T. sinense Oliv. アリ支那ニ產シ日本ニナシ

(2) しきみ族中東亞ニ產スルハしきみ屬 (Illicium)

之ヲ要スルニ著者ノ實驗ハ何レモ簡單ニシテ未ダ豫備的試驗タルノ價値ヲ有スルニ過ギズト雖モ之ニ由テ、興味アル著生植物營養問題ニ關スル研究ノ方途ヲ開キタルハ最モ吾人ノ注目ヲ要スル所ナリ。

五、まんりやうノ葉緣ニ於ケル細菌癌

著者ハボイテンソルク植物園ニ於テまんりやう *Ardisia crispa A. DC.* ノ葉緣ニ於ケル小癌ニ注目シ、顯微鏡檢査ノ結果其內部ニ細菌ノ充盈セルヲ發見セリ、本來此小癌ハ夙ニヘーネル氏ノ解剖的ニ研究セル所ニシテ、氏ハ其內容物ヲ蛋白質粒ト見做シ、爾來蛋白質腺 Glandule albuminifere ノ名ヲ以テ分類學者間ニ知ラレタリ、今著者ハ生品及「ミクロトーム」截片標品ニ於ケル精細ナル觀察ノ結果其眞相ヲ明ニシ、高等植物ニ於ケル興味アル細菌共生ノ新例ヲ加フルニ至レリ。

該細菌癌ノ發生ヲ檢スルニ其起原ハ疑ナク櫻草科等ニ見ルガ如キ Hydathoden 樣ノ腺體ニシテ、幼嫩ナル葉ニ在リテハ著明ナル氣孔狀ノ開口ヲ有ス、細菌ハ此開口ヨリ進入シ先ヅ其內部ニ存スル細胞間隙ヲ充ス粘質物中ニ增殖ス、爾後葉ノ生長ニ伴ナヒ該腺狀體ハ增大シ、其開口ハ閉鎖セラレ、細菌ハ Epithem 狀組織ノ細胞間隙ニ蕃殖シ遂ニ著明ナル塊狀體ヲナスニ至ル、老葉ニ於テハ往々癌狀體中細菌ノ消失ヲ認ムルコトアリ、此際ニハ其周圍ノ柔組織中ニ澱粉ノ蓄積ヲ來スヲ見ル、之レ蓋シ細菌ガ其生活旺盛ナルニ當リ常ニ植物ヨリ供給スル糖分ヲ消費シツヽアルヲ證示スルモノナラン、著者ハ精檢ノ末該細菌ガ芽ノ生長點ノ周圍、及種子中胚ト胚乳ノ中間ニ占居スルヲ發見セリ、卽チ該細菌ノ生活史ハまんりやうノ夫レト全ク離ルベカラザル關係ヲ有スルモノタルヲ知ルベシ。

著者ハ該細菌ニ名クルニ *Bacterium foliicola* ヲ以テセリ、該菌ハ不動性ノ細キ桿菌ニシテ稍彎曲シ、或ハ波狀、S 字狀ヲナスモノアリ、胞子ヲ形成セズ、時トシテ稍肥大シ yvt 狀ニ分岐セル變態ヲ呈シ、細胞內容顆粒狀ヲ示スコトアリ、此際ハ其外觀萱科ノ根癌菌ニ類ス、著者ハ百方其分離純養ヲ試ミタレドモ遂ニ成功ヲ見ルニ至ラズ。此興味アル細菌共生ガまんりやうノ營養生理上如何ナル意義（例セバ遊離窒素同化ノ如キ）アルヤハ、著者ガ後來ノ實驗的研究ヲ待テ決スベシト雖モ、從來唯彼ノチムメルマン氏ノ發見セル茜草科植物 *Psvetta* 及 *Grumilea* ニ於テノミ知ラレタル葉上ノ細菌癌ガ更ニ他科ノ植物ニ於テ其新例ヲ增加シ、且ツ該共生細菌ガ寄主植物トノ密接ナル生活史的關連ヲ有スルヲ明ニスルニ至レルハ大ニ喜ブベシ、特ニまんりやうハ本邦ニ於テモ亦普通ナル觀賞植物ニ屬シ吾人ハ容易ニ右ノ現象ヲ親睹スルヲ得ベシ、抄錄者ハ邦產ノ同屬植物からたちばな（かうじ）*Ardisia hortorum* ニ於テモ亦該細菌癌ノ存在ヲ觀察セリ。

著者ハ此機會ニ於テ瓜哇ノ諸火山ニ於ケル「フロラ」ノ構成ニ關スル觀察ヲ記述セリ、噴火口附近ノ新成土壤ニ於ル先驅植物ハ殆ド常ニ豆科ニ屬スル *Albizzia montana*、石南科ニ屬スル *Vaccinium ramiginifolium, Gaultheria punctata*、楊梅科ノ *Myrica javanica* 等ニシテ皆共生菌ヲ有シ遊離窒素ヲ同化スルノ能アル(或ハ其疑アル)植物タルハ頗ル興味アリト云フベシ、(ヴェスーヴ山ニ於ケル *Spartium, Cytisus* 等、我富士山ノ灌木草本帶ニ於ケル *Alnus, Astragalus* 等ノ繁生モ亦此例ニ加フベキモノナラン)トレーヴ、エルンスト兩氏ノ觀察セルクラカタウ島ニ於ケル植物出現ノ次序ガ之ト異ナルハ蓋シ芽胞及種子散布ノ難易其他ノ因子ニ左右セラルヽガ爲ナラン。

著生植物ノ營養ニ關スル問題ハ蓋一ニシテ足ラズト雖モ、著者ハ先ツ腐植質ヲ集貯スルノ性アル二三著生植物ニ就キ、(一)該腐植質中ニ於ケル硝化作用ノ有無、(二)アゾトバクテルノ該腐植質中ニ於ケル存否如何、(三)細胞膜質(ツエルローゼ)分解作用ノ强弱ナル三疑問ヲ實驗的ニ解釋セントセリ、著生植物トシテハ *Asplenium nidus, Platycerium bifurcatum, Drynaria quercifolia, Bulbophyllum Beccarii, Grammatophyllum speciosum, Anthurium spec.* ナル羊齒、蘭科及天南星科植物ヲ撰擇シ、各其葉根間ニ集貯セル腐植質ノ材料ヲ採取シ下記ノ實驗ニ供用セリ。

硝化作用ニ就テハ アスプレニウム、ニヅス腐植質ノ冷浸出液ヲ基本培養基トシ、硫酸「アンモン」、食鹽、燐酸二「カリウム」等ヲ加ヘ、各上記ノ腐植質ノ少量ヅヽヲ接種シ、一定時ノ後硝酸反應ヲ試ミタリ、其結果一二ヲ除キ常ニ陽性ノ成績ヲ得タリ。

アゾトバクテルノ證明ニ就テハ上記ノ基本培養基ニバイエリンク氏ノ處方ニ從ヒ「マンニット」及燐酸二「カリウム」ヲ加ヘ腐植質ヲ接種セリ、然ルニ其何レニ在リテモ結果ハ全ク陰性ナリキ、但シ此事實ニ據リテ該腐植質中全ク窒素固定作用ノ行ハレザルヲ斷定スルハ早計ナリト雖モ、而カモ此際該作用ガ重要ナル意義ヲ有セザルハ明白ナリトイフベシ、クルイフ氏ハ瓜哇各地ノ土壤標品百例以上ヲ調査シタルニ、其中纔ニ五例ニ於テアゾトバクテルヲ檢出シタルニ過ギザルハ、該細菌ガ歐洲土壤中ニ極メテ普通ナルニ比シ頗ル奇異トスベシ。

細胞膜質分解作用ヲ證明センガ爲メニハ、著者ハ基本培養液ニオメリアンスキー氏ノ處方ニ從ヒ所要鹽類ヲ加ヘ腐植質ヲ接種シ、一定ノ大サヲ有スル濾紙ノ一片ヲ浮ベ、一定時日ノ後濾紙片ノ侵蝕狀態ヲ檢査セリ、其結果腐植質中ニハ好氣狀態(エローベヂングング)ノ下ニ細胞膜質ヲ溶解スルノ能アル微生物數種ノ存在ヲ徵知スルヲ得タリ、之レ蓋シ著生植物ノ腐植質利用上重要ナル意義アル事實ナリトイフベシ、何トナレバ細胞膜質ノ分解ハ卽チ新鮮ナル腐植質敗壞ノ前提ニ他ナラザレバナリ。

新著　○ミーエ氏「瓜哇ニ於ケル研究」

◎新著

○ミーエ氏『瓜哇ニ於ケル研究』(前號ノ續)

H.Miehe: Javanische Studien. (Fortsetzung.)

三、ハプロヒルス、バンハックスノ銀色斑及其光ニ對スル反應

著者ガウェヂニ滯在中偶々一小魚ノ水中ニ群游スルヤ恰モ星斗ノ燦爛タルガ如ク頗ル美觀ヲ呈スルモノアルニ注目セリ、此魚ハ *Cyprinodontidae* 科ノ *Haplochilus panchax* ニシテ其頭部兩眼ノ中間ニ長一「ミリ」、幅〇・五「ミリ」ノ菱形銀色斑アリテ強ク日光ヲ反射ス、是レ右ノ特異ナル光輝ノ原因ナリ、著者ハ今此魚ノ日光ニ對スル反應ニ就キ興味アル觀察ヲナセリ、卽チ試ニ少シク日光ヲ遮斷スレバ、該銀色斑ハ漸次其光輝ヲ減ジ遂ニ全ク消滅スルニ至ル、而ルニ再ビ日光ノ直射ヲ受クル時ハ數秒ニシテ其光輝ヲ回復スルヲ見ルベシ、是レ蓋該銀色斑ノ上面ニ特殊ノ色素細胞群アリテ、日光ノ刺戟ヲ享クル時ハ收縮シ暗黑トナレバ擴張スルニ基クモノナリ、銀色斑及其光ニ對スル行爲ノ生態學的意義ハ輕シク之ヲ憶斷シ難シ、(*Hpdlochilus* ハ歐洲ニ在リテハ屢々Aquarium ニ愛養セラル、由テ著者ハ動物學者ノ注意ヲ促サンガ爲メ此記事ヲ公ニセリ)。

四、著生植物ガ集貯セル腐植質中ニ於ケル微生物的變化ニ就テ

著生植物ノ營養ニ對シテハ無機的培地卽チ地殼ノ風化產物ハ其意義ニ乏シク、腐植質(フムス)却テ其主要ナル資源ナリ、卽チ凡テノ著生植物ハ Humikolen ナリトイフヲ得ベシ、就中羊齒、蘭科、天南星科ニ屬スル或ル著生植物ノ如キハ特殊ノ葉又ハ根系ニ由リ鳥巢狀、囊狀、漏斗狀等ヲナセル空間ヲ構成シ、其內部ニ腐植質ヲ集貯スルノ裝置ヲ有スルモノアリ、此種ノ植物ハ蘚類ト共ニ樹幹上ニ於ケル著生植物ノ先驅ヲナスヲ常トス、シムパー氏ハ嘗テ南米ノ著生植物ニ就テ重要ナル生態學的研究ヲ公ニシタレドモ、其營養ニ關シ論述スル所主トシテ水ノ需給經濟ノ一面ニ偏シタルハ遺憾トスベシ、故ニ今後ノ研究ハ著生植物ニ於ケル腐植質利用ノ方面ニ著眼スルノ要アルヤ明カナリ、此點ニ關シ特ニ注意スベキハ著生植物中蘭科及石南科ニ屬スルモノ頗ル夥シク、且ツ此等ハ皆菌根(ミコリザ)ヲ具有スルノ事實是レナリ、此等ノ著生植物ハ或ハ遊離窒素ノ同化ニ由リ或ハ腐植物質ノ攝取ニ由リ其營養ニ資スルモノタル疑ナキガ如シ。

著シキ減少ヲ示サヾルヲ以テ花冠ハ屢々其傾向的正位ヲ達シ得ザル事アリ。然レドモ褥ノ傾斜及ビ自己ノ側面屈曲ニヨリ得タル背腹的偏位ハ子房柄ノ拗捩ニヨリ顯ル良ク調整セラル、此ハ其起因ノ如何ナルニ係ラズ屈地的拗捩或ハ單ニシュヴェンデナー氏ノ所謂拗地性（Geotorsion）ト稱スベキモノナリ。逆位ニ於ケル花穗拗捩ノ度ハ直上ノモノニ比シ常ニ多少劣ルヲ見ル、此ハ主トシテ褥ノ外層組織ノ生長著シカラザルニ歸因スルモノナリ。花冠ハ此際皆外向散在スルニヨリ其螺旋觀モ多クハ著シカラズ。花穗水平ノ位置ニ於テハ穗軸拗性ノ强靭ニヨリ顯ル差アリ、拗性强カラザルモノ又ハ穗軸ノ拗捩ヲ禁止セルモノニ於テハ其擧動略々被葉ヲ除去セルモノニ類シ唯花蕾ノ運動著ク阻障セラル、ニヨリ花冠ノ向頂スルモノ彼ニ比シ少シ、之ニ反シ拗性强キモノニ於テハ花穗基部ノ拗捩ト共ニ頂部ハ漸次地心ニ對スル側面ヲ變ズルヲ以テ穗軸伸長モ著シク減ゼラレズ。軸ノ側面ニ來ル花蕾ハ主トシテ上方ニ集ルヲ以テ基螺旋ヲ軸ノ下側ニ於テ著シク隔離シ一回旋ヅヽノ分群ヲナサシム、斯ル分群ハ上斜或ハ下斜ノ位置ニ於テモ尙ホ著シク、直上又ハ逆位ニ近付キテ消失ス、下斜ノ位置ニ於テ軸ノ下側ニ近ク調位スル花蕾ハ其子房殆ド地心ニ向ヒ且被葉ニ蔽ハルヽニヨリ容易ニ柄基ノ運動ヲ起ス能ハズ背腹的及ビ斜向的調位共ニ甚ダ不完全ナルヲ免レズ、次ニ水平廻轉セルモノニ在リテハ穗軸ノ伸長拗捩共ニ盛ニシテ花蕾ハ褥ト同樣ニ降側的傾斜ヲナシ且ツ被葉ヲ壓シテ腹伸的外轉ヲナスニヨリ花冠ハ軸ヲ離レテ著シク横斜ノ位置ヲナスニ至ル、但シ其螺旋觀ハ直上ノモノニ比シ著シキ差ナシ。

概括。以上ノ事實ヨリシテ綬草ノ拗捩ニ於ケル特殊ナル點ヲ約言スレバ、穗軸ハ其拗捩ノ機働組織タル褥ノ大小及ビ配列ニヨリ拗捩ノ程度及ビ方向ヲ定メラル、事、花蕾ハ固有ナル背伸的生長性ヲ有シ葉序ト其後ノ生長ニヨリ制約セラル、立體接觸關係ニヨリ昇側的或ハ降側的轉向ヲナシ且ツ花穗ノ傾キタル位方ニ於テハ其ニ應ジタル調位運動ヲナス事、及ビ此等兩作用ハ被葉ヲ介シテ互ニ相影響スル事ノ三要素ニ歸著セシムル事ヲ得ベシ。

終ニ望ミ余ハ此ノ問題ヲ余ニ與ヘ且ツ懇篤ナル指導ヲ給ハリタル恩師三好敎授ニ對シ茲ニ感謝ノ意ヲ表ス。（完）

上ヨリ見テ其昇側ニ在ル蕾ハ花蕾全體ノ降側的傾斜アルニヨリ比較的他蕾ノ抵抗少ク多少花冠ヲ穗軸ノ橫方ニ向ハシム、下方ノ蕾ハ穗軸又ハ他蕾ノ抵抗存スル間ハ背伸ニヨリ半月狀ヲナシテ內方ニ壓スルモ他蕾ノ漸次上轉スルト共ニ多クハ軸面ヲ脫出シ其降側ニ沿ヒテ上轉シ花冠ハ花穗ノ基部ニ向フ、此ノ如ク全花穗軸ノ上側ニ來ルヲ以テ所謂一側轉向(circinnate)ノ花序ヲ形成シ全然本來ノ螺旋觀ヲ消失ス、此際ニハ花冠ノ穗軸ニ對スル方向ハ向頂(anatropal)向橫(hemitropal)又ハ向基的(katatropal)ナル等不規則ヲ呈スルモ若シ花穗ヲ下斜ノ位置(天頂角 130° 乃至 150°)ニ保持セバ花冠ハ凡テ上方ニ轉ジ且ツ向頂的トナリ目立チタル一側轉向花穗ヲ形成ス。次ニ花穗ヲ植物廻轉器ニヨリ水平ニ回轉セバ蕾ハ先ヅ生長ト共ニ背伸シテ半月形トナリ先端ニテ軸面ヲ壓シ之ニヨリ子房柄ハ被働的ニ外轉ス、此外轉ハ背伸ガ一定ニ達シタル後ニモ尙ホ繼續シ之ニヨリ花冠ハ遂ニ軸面ヲ離ルヽニ至ル、此際背伸的屈曲ハ通常靜位ニ在ルモノニ比シ殆ンド增加セズ、是ハ此屈曲ガ普通ノ背腹性器官ニ於ケル背伸性所謂上伸性(Epinastie)ノ著シク分化固定シ屈地的屈曲性ノ殆ンド滅退シタルモノナル事ヲ示スモノナリ(子房上端ノ屈地的反應ハ水平廻轉ニ於ケルヨリハ被葉ニ押壓セラレタル不平衡ノ位置ニ於テ其稍々著シキヲ見ルモ要スルニ屈地的反應ハ主トシテ子房ノ下部殊ニ細柄ニ集中セシメ上端ハ殆ド固有ノ背伸的部位トシテ分化シ居ルモノナリ、特殊ナル形態ヲ有スル他ノ蘭花ニ於テモ屢々斯ル分化ヲ有スルモノアリ)、要スルニ被葉ヲ除去セル花穗ニ於テハ花蕾ノ交壓ヲ減ジ決シテ昇側的拗捩ヲ起ス事ナク、拗捩ノ度モ亦著シク減ジ一側轉向ノ場合ニ於テハ殆ンド起ラザル事アリ、花列螺旋モ亦不分明トナルカ或ハ全然變化セラルヽニ至ル。

被葉ヲ除去セザル花穗。　花穗ヲ傾斜生長セシムルニ當リテハ花蕾ト被葉トノ地心ニ對スル關係、拗捩ニヨル花蕾ノ位置ノ變化ガ種々ノ配合ヲナスニヨリ穗軸ノ傾斜如何ニヨリ其結果スル花穗ノ形態ニモ頗ル差異アリ。逆位ニ保持セラレタル花穗ニ於テハ被葉ノ影響如何ニヨリ花蕾調位ノ經過同ジカラズ若シ被葉ガ密ニ子房ヲ包マズ之ヲ側面ヨリ脫出セシムル場合ニハ子房ハ單ニ其昇側面ノ背地的過伸ニヨリ花蕾附著點ニ於ケル切面內ニ回轉ヲ了シ正位トナル、若シ被葉ノ抵抗大ナルカ或ハ調位機能弱キ時ニ於テハ子房ハ爲メニ直上スル事ヲ得ズ加フルニ固有ノ背伸ハ

ルニ從ヒ其度ヲ減ジ正ニ生長中ナル軟キ細胞ニ於テ最モ盛ナリトス、而シテ其唯拗振セル部分ニノミ起ルハ既ニ斜長セル細胞層ガ軸ノ失水ニヨリ其半徑ヲ減ズルニ從ヒ愈々其傾斜ノ度ヲ增スニヨルモノニシテ此際組織全體ガ同時ニ動靜組織 (dynamisch-statistische Gewebe) ヲ兼ネ居ルモノナリ、此現象ハ蔓莖、蘭花ノ子房柄、やふくわんざう屬ノ花其他生長當時旣ニ拗振セルモノニテハ凋萎スルニ當リ常ニ見ル事ヲ得。

四　調位運動ト拗振

花當ハ子房柄ノ下端ニ於テ背地性ヲ有シ直上ノ位置ヲトリ子房ノ上端花冠ト相連ナル所ニ於ケル固有ノ背伸性ト相俟チテ常ニ花冠ヲシテ水平ニ近キ背腹正位ヲトラシムル傾向ヲ有ス、然レドモ背地性ノ鋭敏ナル子房柄ノ下端ハ纖弱ニシテ容易ニ被葉ノ支持ヨリ脫スル能ハズ且ツ花當ノ位置如何ニヨリ其正位ニ達スル背腹的及ビ斜向的道程ニ遠近アルニヨリ此運動ハ被葉ノ有無及ビ穗軸ノ傾斜如何ニヨリ著シキ難易アリ、之ニ由リ穗軸ノ拗振及ビ花列ノ形成ニモ顯著ナル差ヲ呈ス、今先ヅ被葉ヲ除去シ運動ノ自由ナル場合ヨリ述ベン。

被葉ヲ除去セル花穗。斯カル花穗ヲ逆位ニ垂レテ保持スル時ハ子房ハ柄基ノ背地的屈曲ニヨリ一勢ニ外轉シテ稍直上ノ位置ニ近ヅキ同時ニ其上端ニテ背伸シ正位ヲ達ス、元來花冠ヲ單ニ背腹的水平ノ位置ニ達セシメンニハ單ニ子房ヲ水平ナラシムル丈ニテ充分ナルベキ筈ナルモ同時ニ起ル背伸ハ却テ花冠ニ下向的位置ヲトラシムルニヨリ柄基ハ稍々直上ノ位置ニ近ヅキ以テ其正位ヲ達スルナリ、子房ハ背地性ヲ有スルモ決シテ鉛直トハナラズ常ニ多少其前方ニ傾キ且ツ背伸屈曲ノ少キ花ニテハ其上方屈曲モ亦少シトス、此等ノ事實ハ明ニ背伸ノ固有性ナル事及ビ柄基ガ花冠部ヨリ情調刺戟 (Stimmungsreiz od. tonischer Reiz) ヲ受クルモノナル事ヲ示ス。次ニ花穗正常ノ位置ニ於テハ各當ハ柄基ノ背地的努力ニモ係ラズ其強キ背伸ノ爲メ花冠ヲ內向セルマヽ却テ子房柄ヲ外轉セラレ穗軸伸長シテ他當ノ障害去ルニ及ビ初メテ軸ノ一側ヲ超出シテ其正位ヲ達ス。花穗ヲ水平ノ位置ニ保テバ當ノ穗軸ニ對スル上下左右ノ位方ニヨリ其調位ノ經過ヲ異ニス、上方ノ花ハ其雌子房柄ヲ起立シテ正位ニ達シ側方ノ花ハ單獨ナル場合ニハ其マヽ横ニ立チテ正位ヲ達シ得ルモ他當ノ抵抗ニヨリ器械的ニ其花冠ヲ花穗ノ頂方ニ向ケ上方ノ花ト幷列ス、但シ

此際花蕾ハ褥及ビ被葉ノ媒介ニヨリ被働的ニ同一方向ニ轉向ス、此事實ハ一旦斜長セル褥ハ其傾斜ノ度ヲ增スニ從ヒ其反旋ヲ困難ナラシムル事ヲ示ス、之ヲ以テ見ルニ通常ノ降側的轉向ハ穗軸固有ノ拗捩ガ花蕾接觸ニ歸因スル同側的外壓ニ援ケラレテ一層確實ニセラレ居ルモノニシテ昇側的拗捩ニ於テハ蕾壓ニヨル褥ノ傾斜ガ降側的拗捩力ニ打勝チ居ルモノナリ、何レノ場合ヲ問ハズ穗軸ハ其側出器官タル花蕾ノ配列及ビ運動ニヨリ其拗捩ヲ支配セラレ居ルモノナリ。

穗軸ノ囘旋。　比較的細キ穗軸ニシテ調位機能盛ナル多數ノ花ヲ附スル時ハ屢々顯著ナル螺旋ヲ形成スル事アリ、囘旋ノ方向及ビ旋度ハ常ニ花列螺旋ト同一ニシテ花列ガ基螺旋ト同旋ナル間ハ軸旋モ亦同旋ニシテ、花列ガ一直線ヲナセバ穗軸モ亦一直線トナリ花蕾ノ軸側ト腹側トノ中間ニ通常五度乃至三十度ノ傾斜ヲナシ、穗軸ガ花蕾開度以上ノ拗捩ニヨリ花列ヲ反旋セシムレバ穗軸モ亦反旋ス、花列ガ同旋ナル間ハ花冠ハ凡テ穗軸螺旋ノ內方ニ向ヒ其螺旋直徑ヲ減ズルモ反旋スル場合ニハ花冠ハ穗軸螺旋ノ外ニ出デ甚ダ目立チタル螺旋ヲ形成ス、蓋シ花蕾ガ調位スルニ當リテハ穗軸ノ存在ニヨリ其眞直ノ位置ニ達シ得ザルニヨリ勢ヒ其子房及ビ花冠ヲ以テ軸ヲ壓スルニ至リ其抵抗ニ打チ勝チ得ル丈ケ之ヲ前方ニ屈曲セシメ、穗軸ノ此屈曲ガ順次ニ異ナル平面ニ移ルニヨリ遂ニ螺旋觀ヲ呈スルニ至ルナリ。

凋萎拗捩。　今半開ノ花穗ヲ花莖ヨリ切リ其儘放置スレバ花穗ハ其凋萎乾燥スルト共ニ漸次其拗捩ノ度ヲ增ス、此拗捩ハ唯生長拗捩ノ盛ニ起リツヽアル所ニ最モ盛ニシテ下部ノ拗捩セザル花莖、未拗ノ穗頂部又ハ穗軸反旋ノ箇所ニ於ケル眞直ナル部分等ニハ決シテ起ラズ、又既ニ開花セル部分ニテハ穗軸ノ周輪組織ノ木質化スルニ準ジ拗捩ノ度ヲ減ズ、此拗捩ハ乾濕運動ニ於ケルガ如キ細胞膜質ノ特別ナル構成ニ歸因スルニハ非ズシテ單ニ生長拗捩ヨリ由來セル細胞ノ切面的傾斜配列ニヨルモノナリ、又乾濕運動ト同ジク拗捩ノ動力ハ水質ノ凝集力ニ在ルモ彼ニ在リテハ其作用ハ膜質ノ內部ニ成立シ之ニ在リテハ膜ト胞室トノ間ニ成立ス、蓋シ長形ノ細胞ハ水ノ消失ニ際シテハ主トシテ其橫徑ヲ縮小スル事恰モ「ゴム」管ノ空氣ヲ吸出セル場合ニ類スルヲ以テナリ、故ニ此縮小ハ細胞ノ木質化ス

横斷面ヲ檢スレバ拗捩ノ盛ナルモノニテハ其葉褥ノ發達極テ著シク内部ノ圓柱組織トノ面積比例1/1内外ナルモ其弱キモノニテハ褥ノ面積小ニシテ圓柱組織トノ比例1/3乃至1/4ニ過ギズ、故ニ綬草ノ拗捩ハ内外組織ノ漸遷的生長差ニヨルニ非ズシテ圓柱ト褥ナル二組織ノ生長差ニ歸因スルモノト云フベシ、蓋シ花穗抽出ノ初ニ於テハ圓柱モ褥モ一樣ナル生長ヲナシ何等ノ拗捩ヲモ起サヾルモ花蕾調位ノ時ニ當リ所屬ノ褥ノ生長モ亦著シク強勢トナリ圓柱ノ生長トニ顯著ナル差ヲ來スニ至ルモノニシテ恰モ調位ニ際シ生長盛ナルベキ部分ヲ穗軸ニ癒合セシメ居ルノ觀アリ、背伸性ノ弱キ花蕾ヲ有スル節間ノ拗捩ノ弱キモ亦此兩者ニ密接ナル關係アル事ヲ示スモノナリ、又花莖ニ拗捩ノ起ラザルハ一ニ其葉褥ノ發生著シカラズ單ニ薄キ皮層トシテ圓柱ヲ圍ムノミナルニ歸因スルモノナリ、内外ノ生長差ガ漸遷的ナラザルニ於テハ褥ハ其生長ニ當リ圓柱ヲ被働的ニ延長セシメザルベカラザルニヨリ圓柱ノ太キモノニテハ單ニ幾何學的關係以外尚ホ器械的ニモ亦其拗捩ノ度ヲ減ゼラルヽ事ヲモ容易ニ了解スルヲ得ベシ、故ニ極メテ太キ圓柱ヲ有スルモノニ於テハ褥ハ其抵抗ニヨリ屢々充分生長スル事ヲ得ズシテ著シキ横皺ヲ形成スルニ至ル事アリ、又褥組織ガ大ナルニ過グレバ圓柱ハ容易ニ延長セラルヽヲ以テ同樣ニ内外ノ著シキ生長差ヲ生ゼズ拗捩モ亦減ズルニ至ル、輪生花穗ノ拗捩少キハ其褥組織ノ比例大ニシテ放射的配列ヲナシ容易ニ圓柱ヲ延長セシムルニヨル。穗軸固有ノ拗捩ノ方向ハ花蕾ヲ除去セル場合ニ見ラルヽ如ク常ニ降側的ナリ、此ハ各褥ガ其生長スルニ當リ褥ノ配列上其昇側ニ大ナル抵抗ヲ受ケ常ニ降側ニ傾キテ生長スルト褥ガ發育ノ當時下二次蕾ニ壓セラレテ多少降側ニ傾キ居ルトニヨル。通常ノ生長拗捩ニアリテハ其拗捩ノ方向ハ常ニ外力ヲ俟チテ定マルモノナルニ綬草ガ斯ク褥ノ配列換言スレバ葉序ノ如何ニヨリ初ヨリ其方向ヲ定メラルヽハ普通ノ圓筒狀器官ノ拗捩ト頗ル異ナル所ニシテ此點ニ於テハ彼ノ細胞膜質ノ斜長ニ由來スル生長拗捩(うしのしたノ心皮ノ如キハ恐ラク之ニ屬ス)ニ似通ヘリ。

蕾壓拗捩ト穗軸拗捩トノ關係。　拗捩ノ初期ニ以テハ褥ノ傾斜未ダ大ナラザルニヨリ降側的傾向モ亦弱ク軸外ナル花蕾ノ接觸狀態如何ニヨリ容易ニ昇側的拗捩ニ變ゼラル。穗頂ノ回轉ヲ人爲的ニ禁止スルニ於テハ下方ノ拗捩ト共ニ穗頂ノ組織軟キ部分ハ逆捩スルヲ以テ軸ノ拗性、穗頂部ノ抵抗及ビ穗ノ長短ニヨリ一乃至數回ノ反旋ヲナス、

テ多少螺旋的配列ヲナスヲ常トスルヲ以テ多クハ穗軸固有ノ降側的拗捩ニ伴ヒ降側的轉向ヲナス、又螺旋ノ方向ガ屢々不定ニ轉換スルニヨリ若シ穗軸ノ伸長未ダ盛ナラズ各輪ノ花蕾尙ホ接觸ヲ保ツニ於テハ遠頂的或ハ求頂的影響ヲ受ケ轉向ノ方向モ亦屢々昇側的トナル事アリ又蕾ガ背伸性弱クシテ尙ホ接觸ヲ保ツ場合ニハ全蕾內向ノ儘開花スル事アリ、二二接觸ニ於テモ其關係相同ジ。

異ナル接觸ノ過渡ニ於ケル轉向。　二三及ビ三四兩接觸ノ場合ニ於テハ元來兩接觸共ニ降側的轉向ヲ常トスルモ其有効列タル前者ノ三次ト後者ノ四次列トガ相反旋スルヲ以テ轉向モ亦轉換ス、花列螺旋ニ於テモ亦然リ、但シ二三接觸ガ過渡ニ移ルニ先立チ昇側轉向ヲナス事アリ、是ハ過渡ニ於ケル五次接觸ガ割合ニ有効ナルト三四接觸ノ遠頂的影響アルトニヨルモノナリ、斯カル花穗ノ充分開花セルニテハ一花列先ヅ螺旋狀ニ昇リ二列ニ別レテ直上シ再ビ密集セル一花列トナリテ反旋スルヲ見ル、三五ヨリ三四ヘノ過渡ニ於テハ基螺旋ハ反旋ナルモ最高有効列タル甲ノ五次乙ノ四次列ハ同旋(homodrom)ナルヲ以テ轉向ノ方向相同ジク開花セルモノニ在リテハ二直列ヨリ一螺旋列トナル事二三ヨリ三四ヘノ過渡ト相同ジ、二三ヨリ二三ヘノ過渡ニ於テモ前者ニ屢々昇側的轉向ヲ起ス事アリ。

三　穗軸ノ拗捩及ビ回旋

拗捩ノ起因大小及ビ方向。　推轉及ビ轉向ガ穗軸拗捩ノ方向ヲ制約シ得ルハ上ノ事實ヨリシテ明ナルモ拗捩ガ花蕾接觸ノ消失セル後尙ホ盛ニ繼續スル事及ビ其程度ガ花穗ニヨリ夫々異ナル事ハ明ニ外壓ニヨルモノ以外ニ穗軸ガ固有ノ拗性ヲ有スルコトヲ示スモノナリ、早ク花蕾ヲ除去セル場合及ビ花蕾ノ背伸內曲ニ先立チ起ル腹伸性(Gastronastie)(甚ダ稀ニ見ラレ遺傳的傾向アリ)ニヨリ花蕾接觸ノ消失セル場合ニ於テモ尙ホ拗捩ノ起ルハ更ニ此事實ヲ確ムルモノナリトス、元來拗捩ノ度ハ內外組織ノ生長差ニ歸因シ若シ內外生長ノ大小比例一定ナレバ軸ノ生長ノ度ニ比例シ半徑ニ逆比例スルモノニシテ綬草ニ於テモ特種ノ障害ニヨリ生長ノ衰フルガ如キ場合ニハ拗捩ノ度甚ダ少ク、細キ穗軸ハ一般ニ強ク拗捩ス、然レドモ細キ穗軸ニ於テモ拗捩ノ甚ダ少キアリ又生長ノ度ニ比シ拗捩ノ甚ダ大ナルアリ、是等ハ要スルニ內外生長組織ノ制約ガ決シテ一樣ナラザル事ヲ示スモノニシテ今若シ此等ノ穗軸ニ就キ其

ニ變ゼシムル事アリ、此轉向ハ二三接觸ノ花穗ニ於テモ屢々見ラル、所ニシテ各當ハ其後ノ穗軸拗振ト共ニ其開度ヲ大ニシテ二直角內外トナリ直上スル二花列ヲ形成シ普通ノ綬草トハ頗ル異ナル觀ヲ呈ス。花當ガ上三次當ノ壓ニヨリ第二推轉ニ入リタル後ト雖モ其未ダ上五次當ノ昇側ニ存スル間ハ內曲ニヨリ新タニ有効ナル尖端接觸ヲナシ上五次當ノ昇側ヲ滑リテ其支持ヲ受ケ上三次當ノ遠頂影響ト對向シ得ルヲ以テ求頂遠頂兩力ノ强弱如何ニヨリ昇側或ハ降側的轉向ヲ惹起ス、若シ兩力相匹敵スレバ下當ハ內曲ノ儘開花シ途ニハ軸ニ沿フテ滑轉スルヲ得ズシテ終ル事アリ、此際ニハ所屬節間ノ拗振モ亦阻止セラル。此等ノ相壓關係ハ花穗ノ生長ト共ニ各當ヲ通ジテ兩交列ニ傳播スルヲ以テ實際ニ就キテ見レバ通常ノ降側的轉向ニ於テハ各當ハ上三次及ビ下二次ノ兩當ヨリ降側的壓ヲ受ケテ同側ニ轉向シ同時ニ上二次及ビ下三次ノ兩當ヲ同方向ニ壓シ、昇側的轉向ニ於テハ各當ハ下三次當ノ强キ橫壓及ビ上五次當ノ支持ヲ受ケテ上三次當ヲ昇側ニ壓シ同時ニ下五次當ノ支持ヲナス、此ノ如キ立體的接觸狀態ハ同一花穗ニ於テモ漸次變遷スルヲ以テ昇側轉向ハ花穗ノ下部ヨリ起ル事アリ又中程ヨリ始マル事アリ然レドモ花穗ノ先端ハ常ニ降側的轉向ヲナス、是レ一ハ花穗ノ細キ部分ニ於テ五次接觸ノ消失スルト一ハ穗軸ニ固有ノ降側的拗性アルヲ以テナリ(後節參照)、昇側的拗振ハ伸長性及ビ拗性ノ弱キ太キ花穗ニ於テハ人爲的ニモ容易ニ作成スル事ヲ得。

他ノ葉序ヲ有スル花穗ニ於ケル推轉及ビ轉向。　三五接觸ヲ有スル花穗ニ於テハ余ノ是迄見得タル所ニテハ轉向ハ常ニ昇側的ニシテ二列花ヲ形成スル事二三接觸ノ其ノ如シ、是レ八次列ハ有効ナル接觸列ヲ形成セズ五次ノ遠頂的影響及ビ三次ノ求頂的影響ガ主ナル機働トナルヲ以テナリ、三四接觸ニ於テハ上七次ノ開度 $\frac{4}{13}$ ニシテ殆ド上下眞直ニ近ク上四次ハ之ニ反シ $\frac{5}{13}$ ノ開度ヲ以テ橫ニ有効ナル推轉ヲ惹起セシムルヲ以テ各當ハ未ダ內曲スル前早ク旣ニ上七次當ノ降側ニ出ヅルヲ以テ常ニ降側的轉向ヲ起ス、此花穗ハ各次ノ開度 $(100^\circ\ 47')$ 小ナルニヨリ其後ノ拗振ニヨリ密接セル一列螺旋ノ花列ヲ形成ス、三三接觸ノ花穗ニ於テハ三次ナル兩交列ガ花穗ノ長軸面ニ對シ等勢又ハ其ニ近キヲ以テ推轉ヲ起サズ花當ノ內曲ト共ニ上六次當又ハ其下ノ軸面ヲ壓シテ何レカノ側面ニ轉向ス、此際同輪中ノ全花ハ通常同一方向ニ轉向スルヲ常トス、然レドモ綬草花穗ニ於テハ花當ガ眞輪ヲナス事稀ニシ

旋ナルニヨリ各蕾ハ本來ノ降側的傾斜ヨリ推轉セラレテ昇側的傾斜ヲナシ上三次ノ蕾ニ向フ之ヲ第一推轉ト名ヅク節間ノ生長ハ花蕾ノ生長ニ比シ著シク大ニシテ且ツ長ク繼續スルヲ以テ此五次接觸ハ早晩消失シ遂ニ各蕾ハ有效ナル三次接觸ヲナスニ至ル、三次列ハ莖螺旋ト同旋ナルヲ以テ蕾ハ再ビ降側的推轉ヲナスニ至ル、之ヲ第二推轉ト名ヅク、穗軸生長ノ初ヨリ盛ナル花穗ニ在リテハ五次接觸ハ成立セザルカ或ハ有效ナラザルニヨリ第一推轉ヲナサズシテ原傾斜ヨリ直チニ第二推轉ニ移ル、但此間ニハ漸次的變遷アリ。

花蕾ノ轉向(Wendung)。　此間ニ花蕾ハ漸次背伸性屈曲ヲ起シ被葉支持ノ下ニ其蕾端ヲ以テ上蕾ヲ內方ニ壓ス、此接觸ヲ尖端接觸ト名ヅク、子房柄太ク且調位機能ノ盛ナルモノニ在リテハ此方頗ル强シ、此壓ノ方向ハ放射的內向ナルモ各蕾ハ常ニ斜ニ接觸シ居ルヲ以テ此壓ノ切面分方ヲ生ジ花蕾膨大ノ時ニ於ケルト同ジク蕾ノ切面的傾斜ヲ惹起ス、此花蕾屈折後ノ傾斜ヲ特ニ其前ノモノト區別シテ轉向ト名ヅク、勿論推轉ヨリ漸遷シテ之ニ至ルモノニシテ時期ノ根本的區別アルニハ非ズ。轉向ノ方向ハ尖端接觸形成當時ニ於ケル花蕾ノ接觸及推轉ノ狀態如何ニヨリ異ナリ、尖端接觸ガ第二推轉ノ後起ル場合ニ於テ若シ軸ノ伸長著シク五次接觸ノ既ニ消失セル後ナレバ此內曲ニヨリ上二次蕾ヲ橫ヨリ壓シ其ヲシテ同ジク降側的轉向ヲ惹起セシム、此際下蕾ハ長腕ヲ以テ上蕾ニ働クモ下蕾ハ被葉ニ支持セラレテ容易ニ外轉セズ、上蕾ハ其稍々短腕ナルニモ係ラズ橫ヨリ壓セラルヲ以テ被葉及ビ褥ト共ニ容易ニ切面的傾斜ヲナス、此ノ如ク下蕾ガ上蕾ヲ推轉セシムルモノナルニヨリ之ヲ求頂的影響ト名ヅク、普通ノ花穗ニテハ常ニ此下二次蕾ノ求頂的影響ヲ認ムル事ヲ得ルモ特ニ太キ花穗トナリテハ其影響ノ甚ダ弱キカ或ハ成立セザル事アリ。次ニ若シ尖端接觸ガ早ク第一推轉ノ時ニ於テ起レバ上五次蕾ハ小開度ヲ以テ高ク位シ唯其基部ヲ以テ下蕾ノ先端ト接觸スルニ過ギザルヲ以テ下蕾ニ轉向セラルヽ事ナク唯支持體トシテ働ク事推轉ノ時ノ如シ、之ニ反シ上三次蕾ハ植杆腕長ノ差五次蕾ノ如ク著シカラズ且斜上ノ位置ニ在ルヲ以テ容易ニ下蕾ノ求頂的影響ヲ受ク、故ニ各蕾ガ內曲スルニ當リテハ上五次蕾ノ昇側ニ沿ヒテ同側ニ轉向シ上二次蕾ヲモ同側ニ轉向セシムルニ至ル、此昇側的轉向ハ三次列ヲ通ジテ頗ル有效ニ上方ニ傳播スルヲ以テ屢々同列ノ遠頂的影響ニ打勝チテ花蕾ヲ第二推轉ヨリ昇側的轉向

維管束ノ走向。維管束ハ常ニ最高接觸列ノ次高列（二三接觸ニテハ五次列）ニ沿フテ走リ穗軸拗捩ノ方向及ビ程度トハ何等ノ關係ナシ、且ツ拗捩當時ニ於テハ唯一二ノ環狀導管ノ外木質化セル部分ナク常ニ被働的ニ穗軸拗捩ニ從フ。

二　花蕾ノ推轉及ビ轉向

花蕾接觸壓ノ機因。綬草ノ花蕾ハ顯著ナル背伸性（Dorsiniastie）ヲ有ス、卽チ調位ニ際シ子房柄ノ背端部ハ著シク過伸シ殆ド直角ニ屈曲ス、而シテ花蕾ノ背部ハ常ニ外下部ニ面スルヲ以テ花穗ノ直立セル場合ニハ蕾ノ先端ハ內方ニ向ヒ軸面ヲ壓ス、但シ子房柄ノ下端ハ甚ダ纖弱ナルヲ以テ此屈曲ニヨル壓ハ花蕾ガ被葉ニ支持セラルヽ時ノミ其全力ヲ現ハス事ヲ得、若シ被葉ヲ除去スレバ屈曲ト共ニ花蕾全體ハ外方ニ轉向ス。被葉ハ廣キ基脚ヲ以テ軸ニ附著シ調位期ニ於テハ裕ニ子房ノ全體ヲ覆ヒ之ヲ支持スルヲ以テ花蕾ハ屈曲スルニ當リテモ容易ニ外部ニ轉向スルコトナク却テ強ク內方ヲ壓ス、之ニ反シ花蕾ハ軸ノ切面的方向（左及ビ右）ニハ被葉及ビ褥ト共ニ容易ニ傾向ス。

花蕾ノ推轉（Verschiebung）。花蕾ハ花穗抽出ノ初ニ當リテハ未ダ扁平ナル小體ニシテ全部被葉ニ覆ハレ居ルモ調位期ノ前ニ當リ著シク生長シ其容積ヲ增加スルヲ以テ遂ニハ相互ニ壓シ合フニ至ル、一般ニ上下ノ二蕾ガ相壓スル場合ニハ其附著點ニ於ケル固定度ニハ著シキ差ナキモ低位ノ花蕾ハ高位ノ花蕾ニ比シ幹杆ノ長腕ヲ以テ働クニヨリ高位ノモノヨリ容易ニ推轉セラル、反對ニ低位ヨリ高位ノ蕾ニ及ボス壓ハ一定度以上ニ達セザレバ單ニ壓迫（ストレッス）トシテ終ル、尙ホ花穗ノ生長ハ下方ヨリ起リ此際最下ノ花蕾ハ其下方ニハ更ニ自己ニ接觸スルモノヲ有セザルモ上蕾ハ其上ニ更ニ高位ノ蕾ヲ有スルヲ以テ相互相壓スルニ當リテモ下蕾ハ支持セラルヽ所少ク且ツ比較的大ナル運動ノ空間ヲ有ス、此關係ハ生長ト共ニ順次下ヨリ上ニ移ルヲ以テ各蕾ハ其自身ノ膨大ニヨリ却テ上蕾ヨリ推轉セラルヽ事トナル換言スレバ下蕾ハ順次其上蕾ヨリ推轉作用ヲ受ケ、故ニ之ヲ玆ニ上蕾ノ達頂的影響ト名ヅク。推轉ノ方向ハ蕾ノ立體的接觸關係ニヨリ定マリ同一葉序ノ花穗ニ於テモ穗軸及ビ花蕾ノ伸長割合ノ如何ニヨリ異ナリ、普通ノ二三接觸ノ花穗ニ於テ若シ軸ノ伸長遲キカ或ハ蕾ノ生長比較的早ク五次ノ有效ナル超層接觸成立セバ五次列ハ萊螺線ト反

面接觸ヲナシ花蕾轉向ニ當リテモ最モ有効ナル列タリ。五次列ノ各蕾ハ只次々ニ端部ト基部トガ1/3前後ノ開度ヲ以テ殆ド上下ニ超層的接觸ヲナス。若キ花穗ノ表面觀ニ於テハ二次ノ被葉ハ開度ノ大ナルニヨリ最早ヤ接觸ヲ示サズ却テ五次列ハ最モ顯著ナル觸列ヲナシ基螺旋ト反旋シ殆ド理論上ノ開度1/13ニ一致ス、從來此花穗ノ開度ハ1/5ト稱セラレタルモ然ラズ。

穗軸ノ外形。穗軸ハ花蕾ノ直下ニ肥大セル褥ヲ形成スルヲ以テ軸面ハ決シテ筒狀ナラズ常ニ花蕾ノ配列ニ相當スル著シキ隆起ヲナシ恰モ蕾群ノ塡充組織タルノ觀ヲ呈ス、此際各褥ハ下二次蕾ヨリ直角ニ近ク横ニ壓セラルヽニヨリ多少降側的傾斜ヲ呈ス。

花穗ニ稀ニ現出スル葉序。綬草ノ花穗ニハ稀ニ他ノ葉序ヲ呈スルモノアリ、莖葉ノ一二接觸ヨリ被葉ニ移ルニ當リ通常ハ二三ナルモ他ニ二二、二三、三五等アリ。又被葉ノ二三ヨリ二三或ハ三四ヲ來ス事アリ、又逆ニ三五ヨリ却テ三四ニ移ル事アリ、此等接觸列ニ變化ヲ來ス場合ニハ原序ニ於ケル一系ノ列ハ其儘新序ニ進行シ之ト反旋スル交列 (konjugierte Zeilen) ハ分枝又ハ合一ス、例ヘバ二三ヨリ三四ニ移ル場合ニハ三ハ其マヽ進行シテ新序ノ一系トナリ二個ノ二次列ハ過渡ニ於テ各一回ヅヽ分枝シテ四個ノ四次列トナルガ如シ、主列 (Hauptreihe) ヨリ第一副列 (erste Nebenreihe) ニ移ル場合ニハ基螺旋ハ過渡ニ於テ常ニ反旋ス、同一過渡ニテモ急ナル事アリ徐々ナルコトアリ、又或新序ヘノ過渡ニ類似スル變化ヲナセルニ係ラズ其儘舊序ニ歸ル事アリ、綬草ニ於テハ葉序ノ複系 (mehrfach-(ge)Zyklen) ナル場合ニモ眞ノ輪生トナル事殆ド稀ニシテ多少螺旋的傾向ヲ有スルヲ常トス其際卷方ノ左右ハ屢々變換ス。

畸態。花蕾ノ二個稀ニ三個ガ癒合シ居ル事アリ此ハ下蕾配列ノ不規則ニ伴フ空面ノ大小ヨリ由來スルモノニシテ接觸律ヲ適用シ得ザル興味アル例ヲ有ス、癒合蕾形成ノ後ニハ基螺旋ノ反旋スル事アリ又接觸關係ヲ變ズル事アリ。花穗ハ又一回稀ニ二回穗軸ヲ分又 (Gabelung) スル事アリ、葉序ハ分又ノ前ニハ大ニ不規則ナルモ分又ノ後ニハ各又共規則正シキ接觸關係ヲ示スヲ常トス、其數値ハ各又共ニ同一ナル事アリ又然ラザル事アリ。

等ノ厘ニョリ楕圓形ヲナシ葉肉ニモ著シク厚薄ノ差ヲ有ス。

花穗ニ於ケル左卷及ビ右卷ノ現出數。此兩者ノ數度ハ時ニハ稍々一方ニ偏スル事アルモ多クハ略相同ジ、余ガ從來計算セルモノヽ總和ニ於ケル左右ハ 1926 L : 1977 R ニシテ其差ハ全體ノ一%ニ達セズ、此ハ螺旋ノ走向ヲ制約スル諸多ノ原因ノ配合ノ公算的ナルヲ示スモノナリ、姉妹穗（一株ノ二腋芽ガ同時ニ抽出セルモノ）ニ於テハ兩穗共左ナルモノ、左右ヲ混ジタルモノ及ビ共ニ右ナルモノ 541 L : 162 R : 72 RR ニシテ%ニ於ケル比 240 : 226 : 234 トナリ殆ンド (1+1)^{n} ニ相當セリ。

各部分ニ於ケル葉序及ビ其二次的變化。　脚葉及ビ下部ノ莖葉ハ一二接觸ヲナシ上部莖葉ノ過渡ヲ經テ花穗被葉ノ二三接觸ニ移ル、花蕾ハ被葉ノ腋生ナルニヨリ其序ハ全ク被葉ノ其ニ一致ス、葉ハ二次的ニ横ニ生長シ脚葉及ビ下部ノ莖葉ハ鞘狀トナリ莖表ノ重複被層ヲナスヲ以テ其被層關係（Berührungsverhältnisse）ハ零一接觸ニ變ジ花穗被葉ニ於テモ多少一二三接觸ニ近ヅク。

葉ノ附著點ノ傾斜。　葉ノ基部ハ稍々斜ニ母莖面ニ附著ス、其傾ハ一二接觸ニ於テハ昇側ニ低半部ヲ有シ二三接觸ニ於テハ反對ニ降側低シ、脚葉ニ於テハ母莖ノ其後ノ肥大ト共ニ此傾斜ハ認メ難キニ至リ或ハ根ノ肥大ニヨリ波狀ニ變化セラル、モ花穗被葉ニ於テハ長ク其傾斜ヲ保有ス、花蕾ハ其腋生器官トシテ又同樣ニ降側ニ切面的傾斜ヲ有ス

被葉及ビ花蕾ノ立體的接觸關係。　被葉ハ鞘葉及ビ土壤ニ圍マレテ上斜的生長ヲナシ基脚ニ廣キ披針狀ヲ呈スルヲ以テ其横斷面ニ於テ見ラルベキ立體的接觸關係ハ各葉ノ高サニヨリ卽チ軸面ニ近キ部分ト外表部トニヨリ異ニシテ軸面ニ於ケル二三接觸ヨリ先ヅ一二三接觸トナリ再ビ二三接觸ヲ經テ更ニ三五接觸トナリ遂ニハ斜ニ放射スル五次接觸列トナリテ終ル、此五次接觸ハ立體關係ヨリ來レル第二次的ノモノニシテシューマン氏ノ所謂超層接觸（Überschichtungskontakt）ナリ、花蕾ハ稍紡錘狀ヲ呈シ同ジク放射的上斜ノ位置ヲトルヲ以テ二次列ノ各蕾ハ 83°/$_{13}$ 前後ノ開度ヲ以テ只母軸面ニ近キ基部ニ於テノミ接觸シ三次列ノ各蕾ハ 136°/$_{34}$ 前後ノ頗ル小ナル開度ヲ以テ密接ナル側

ノ又ハ前年ノ母體ニ於ケル腋芽ノ葉序ニ其起原ヲ有スルモノナリ。腋芽ニ於ケル基螺旋ノ方向ハ他ノ多クノ單子葉及ビ少數ノ雙子葉植物ニ於ケルト同ジク第一葉及ビ第二葉ノ位置關係ヨリ定マルヲ常トス。第一葉ハ腋芽ト母莖トノ間ニ生ジ母莖ニ背ヲ向クルニヨリ通常向背前葉(adossiertes Vorblatt)ト稱セラル、モノニシテシュヴェンデナー氏ハ此背生ヲ全然母莖及ビ包葉ノ壓ニヨリ消極的ニ定メラル、モノトナシイテルソン氏ハ腋芽生長點ノ表面ニ於ケル空面關係(Raumverhältnisse)ニ歸スルモ綬草ニ於テハ腋芽ノ四周ニ於ケル壓關係及ビ生長點ノ形態ヨリ見ルニ全ク內因ニ歸スベキモノニシテ其中軸面(母莖軸ト腋芽軸トヲ含ム面)ヨリノ偏位コソハ却テ母莖トノ接面ニ於ケル壓ニ歸スベキモノナリトス、此壓ハ母莖ノ基軸ガ其鞘葉ト共ニ地下ニ於テ肥大スルニ當リ放射的方向ニ起ルモノニシテ之ニヨル偏位ハ通常十度內外ナルモ稀ニハ四十度以上ニ達スル事アリ、つゆくさ屬等ニ於ケル第一葉ノ橫位モ恐ラク堅キ母莖ノ壓ニ歸スベキモノナリト思惟ス。第二葉ハ第一葉ニ接續(Anschluss)シテ殆ンド其對位ニ形成セラル、モ腋芽ノ包葉ノ位置ト相應ジテ多少中軸面ヨリ偏スルヲ常トス、卽チ包葉ノ中肋ガ右ニ偏スレバ第二葉ハ左ニ偏シ中肋ガ左ニ偏スレバ之ハ右ニ偏ス、但シ此關係ハ背葉ノ偏位ノ多少及ビ綬草ニ在リテハ特ニ其等腋芽ノ下方不定ノ位置ニ出ヅル、根ノ生長ニ歸因スル、鞘葉壓ノ減少ニヨリ變化ヲ受ク、又外壓甚ダ强キ場合ニハ其中部ヲ壓セラレ「プラスチック」ナル生長ヨリ分離雙生(Dédoublement)スル事アリ、イテルソン氏ハホフマイスター氏ノ說ヲ承ケ第二葉ノ位置ヲ單ニ空面接續關係ヲ以テ說明セントスルモ其壓關係ニ支配セラル、事ハ第二葉ガ向背葉ノ兩緣ニ覆ハレザル空面ノ中間ニ立タザル事及ビ偏位ガ腋芽脚面ノ傾斜ト何等ノ關係ナキ事ニヨリ明ナリ。基螺旋ハ腋芽ヲ母莖ノ手前ニ見テ第二葉ガ中軸面ノ左ニ偏スレバ左卷トナリ右ニ偏スレバ右卷トナルハ旣ニワイセ氏ノ明ニセル所ナリ然レドモ若シ第二葉殆ンド中軸面ニ來レバ第三葉ノ偏位ニヨリ定マリ此際ハ第三葉ガ腋芽ノ後方右ニ偏スレバ左卷トナリ左ニ偏スレバ右卷トナル。種子ヨリ發芽セルモノニ於テ其關係如何ナルカニ就テハ余未ダ檢スルノ機會ヲ得ザルモイルミッシュ氏ノ寫生圖ニ就テ見ルニ全ク壓關係ノナキモノ、如シ。第三葉以上ニハ壓ノ影響次第ニ間接トナリ葉體形成ノ位置ハ主トシテ空面接續關係ニヨリ制約セラル、但シ腋芽ノ橫斷面ハ母莖及ビ鞘葉ノ凋萎前ニハ其

(anodische Seite) 及ビ降側 (kathodische Seite) ナル語ヲ用フル事アリ、昇側トハ螺旋ノ昇リ行ク側ニシテ右卷ニテハ向ツテ左ナリ降側ハ其反對ナリ、例言スレバ普通ノ花穗ニテハ花當ハ常ニ基螺旋ノ降側ニ轉向シ穗軸ヲシテ漸次降側ニ拗捩セシメ之ニヨリ基螺旋ヲ解旋ス。此ハ花穗ノ葉序ガ二三接觸(一二三接觸トハ基螺旋ニ沿フテ花當ニ一二三……ノ番號ヲ附シタル時各二ツ毎ノ花當即チ1 3 5 ……及ビ2 4 6 ……ガ相接續セル二本ノ當列ヲナシテ一方ニ螺旋狀ニ並走シ又各三ツ毎ノ花當即チ1 4 7 ……、2 5 8 ……及ビ3 6 9 ……ガ同ジク三本ノ當列ヲナシテ前者ト反旋スルモノナリ)ヲナス花穗ニ於テ通常起ル所ナルモ花當ガ他ノ葉序ニ配列セル花穗ニ在リテハ其配列狀態ノ如何ニヨリ穗軸拗捩ノ程度及ビ方向ニ夫々ノ差異アリ。此事實ハ明カニ花當ノ配置即チ接觸關係 (Kontaktverhältnisse) ガ拗捩及ビ其方向ト密接ナル關係アルヲ想像セシムルモノニシテ、此等諸種ノ接觸過渡 (Übergänge) 及ビ通常ノ二三接觸ヲ示ス花穗ニ於テモ稀ニ昇側的轉向及ビ拗捩ヲナスモノアルハ基螺旋ト直接ノ關係ナキ一種ノ機制ノ存スル事ヲ示スモノト云フベシ、而シテ余ハ觀察及ビ實驗ニヨリ花穗眞直ノ位置ニ在リテハ被葉支持ノ下ニ現ハス花當固有ノ生長ニヨル交壓ガ其配列ト相俟チテ轉向及ビ拗捩ノ方向ヲ機制シ得ルモノナルコトヲ明カニセリ。以上ノ事實ハ、花穗ノ葉序ニ諸種ノ接觸及ビ不規則ノ存スル事、基螺旋卷方ノ左右及ビ其成因、諸種ノ畸態等ト共ニ葉序學上興味アル現象ナリトス。

穗軸ノ拗捩ハサリナガラ全然花當ノ交壓ニノミ歸因スルニ非ズ、何トナレバ拗捩ニ先立チ軸ノ側立接觸體タル花當ヲ除去スルモ尙ホ生長ノ最大時期ト共ニ穗軸ノ拗捩ヲ惹起スルヲ以テナリ、而シテ余ハ穗軸ガ先天的拗性ヲ有シ其方向及ビ程度ハ生長組織ノ內外的及ビ表面的分化、配列、量的關係等ニ歸因スル事ヲ知ルヲ得タリ。要スルニ綬草ノ拗捩ハ彼乾濕拗捩ニ對立スル生長拗捩ノ一種ナルモ內外層ノ生長差ニ歸因スル單純ナル拗捩ニ非ズ又彼強捩等ノ如キ抵抗拗捩ニモ非ズ常ニ外壓拗捩ヲ伴ヘル特殊ナル生長拗捩ナリトス。今其大要ヲ左ニ述ベン。

一　綬草ノ葉序

花穗ノ右卷及ビ左卷ノ生因。　花穗ノ葉序ハ莖ノ下方ヨリ漸次經續シ來レルモノニシテ結局ハ種子ノ養芽セルモ

上何等強捩ニ類スル葉基部ノ螺旋的癒合ナクブラウン、ドブリース二氏ノ意義ニ於ケル強捩トハ全然區別スベキモノナルモ然カモ尚ホ一定ノ走向ヲ有スル抵抗組織ガ穗軸ノ內部ニ存在スルナキヲ保セズ、維管束ノ如キモ其螺旋的走向ヲ有スルニ於テハ生長新條ニ多少ノ捩摺ヲ惹起セシメ得ベキハタイツ氏ノ旣ニ稱道セル所ナリ、茲ヲ以テ余ハ先ヅ穗軸ノ內部ヲ檢セルニ何等特殊ナル抵抗組織ノ存在セザルノミナラズ維管束モ亦基螺旋ト反旋ニシテ明カニ綬草ノ捩摺ノ抵抗捩摺ニ非ザル事ヲ示セリ、稀ニ維管束ト反捩スル花穗ヲ見ルモ何レノ場合ヲ問ハズ維管束ハ本來ノ旋度ニ比シ却テ其回旋ノ度ヲ增加スルヲ見ル。

次ニ花穗ノ捩摺ハ常ニ花蕾ノ調位ト同時的ニシテ且ツ前者ノ方向ガ後者轉向ノ方向ト一致スルヲ以テ捩摺及ビ其方向ガ運動ト一定ノ關係ヲ有スベキハ容易ニ想像シ得ル所ナリ而シテ花蕾ノ調位ハ引力ノ方向ニ支配セラルヽヲ以テ(光線ノ方向ニ對スル反應ハ認ムル事ヲ得ズ)余ハ花穗ヲ地心ニ對シ種々ノ方向ニ傾ケ及ビ水平廻轉ヲナシテ其結果ヲ見タルニ花ノ調位ハ之ニヨリ種々ノ變化ヲ受ケ穗軸捩摺モ亦之ニ準ジ變ゼラルヽモ調位運動其自身ハ捩摺ノ眞因ニ非ザルコトヲ示セリ。

斯ノ如キヲ以テ捩摺及ビ其方向ガ何處ヨリ由來スルカハ差當リ明カナラザルモ今試ニ半開ノ花穗ニ就テ見ルニ、穗軸捩摺ノ方向ト同一ニシテ且ツ之ヲ豫定スル花蕾轉向ノ方向ガ花穗捩摺ニ先立チ早ク旣ニ切面的傾斜トシテ目擊セラルヽハ著シキ事實ナリ、卽チ基螺旋ノ右卷ナル花穗ニ在リテハ花蕾ガ總テ向ツテ右ニ傾キ左卷ノモノニテハ其反對ナリトス。(茲ニ云フ基螺旋卷方ノ左右ハ普通ノ植物學上ノ規定ニ從ヘリ、卽チ螺旋ヲ下ヨリ上ニ追跡スルニ當リ其方向ガ東南西北ト移ルハ右卷ニシテ其反對ナルハ左卷ナリ、穗軸捩摺ノ左右モ之ニ準ズ、故ニ此規定ハ器械學上ニ云フ捩子(ネヂ)其他ノ卷方ノ左右トハ丁度反對ナリ、花蕾轉向ノ左右ハ花其自身ヲ標準トセリ何トナレバ此等ノ花ニ於テハ生理的背腹及ビ之ニ準ジ左右ハ自ラ定マリ居ルヲ以テナリ、此左右ハ花蕾ノ附著點ヲ軸ノ手前トシテ見タル左右ト一致ス、故ニ卷方及ビ捩摺ノ左右トハ反對ナリ、例言スレバ右卷ノ花穗ニテハ花ハ反對ノ方向卽チ同名ナル右方ニ轉向シ穗軸ハ左方ニ捩摺ス、此ハ實物ニテ容易ニ定ムル事ヲ得、此左右ヲ通稱センガ爲メ以下ニ於テ昇側

植物學雜誌第二十六卷　第三百八號　大正元年八月二十日

ねぢばな(綬草)ノ拗捩

郡場寛

Koriba, K.:—On the Torsion of *Spiranthes*-Spike.

綬草屬(*Spiranthes*—*Ruspirantes*)ハ世界各地ニ分布シ(阿弗利加ノ南半ヲ除ク)夏秋ノ候可憐ナル螺旋狀花穗ヲ著クルニヨリ古來人ノ注意ヲ惹キ居リシ所ニシテ其花列ノ螺旋的外觀ガ穗軸ノ拗捩ニ伴フ花ノ基螺旋(Grundspirale)ノ解旋ニ由來スル事ハ七十年前既ニイルミッシュ氏ノ記述セル所ナルモ此拗捩ハ從來單ニ固有ノ現象ト思惟セラレ居タルニ過ギズ(イルミッシュ、マスタース、フィッファー、ノル、ドフリース、武田、ヴェレノヴスキー諸氏)。

花列ノ螺旋觀ハ花穗ニヨリ夫々異ナリテ花軸拗捩ノ弱キモノニテハ各花間ノ開度1/3ニ達スルニ過ギザルモ花軸ノ甚シク拗捩セルモノニ在リテハ花列ハ屢々一直線トナリ或ハ越エテ更ニ基螺旋ト反旋(antidrom)ナル花列ヲ形成スルニ至ル事アリ。花軸ノ拗捩ハ花穗抽出ノ初ヨリ起ルニ非ズ、著シキ拗捩ハ常ニ花軸生長ノ最大時期ト一致ス、此ハ半開ノ花穗ニ於テ容易ニ認ル事ヲ得、而シテ此拗捩ト共ニ各花モ亦順次其調位運動(Orientierungsbewegung)ヲ完成ス——多クノ蘭花ハ其形態的上下ト生理的背腹トヲ轉倒シ居ルモノニシテ綬草ニ於テハ此ヲ調位センガ爲メ開花ニ先立チ花蕾ヲシテ軸ノ一側ニ沿ヒテ附著點ノ反側ニ出デシメ以テ其引力ノ方向ニ對スル正位ヲ達ス。

此拗捩ガ唯花穗軸ニ起リテ其下ノ花莖ニ及バザル事ハ既ニ花穗ニ特異ノ機構ノ存スル事ヲ示スモノナリ而シテ一般花穗ニ於ケル拗捩ノ方向ガ基螺旋ノ方向ト反旋ナルハ彼強捩ノ常ニ反旋ナルト一致スル所ニシテ綬草ニ於テ稀ニ見ラルヽ輪生花穗ニ於テ其拗捩ノ度ノ著シク少キモ亦頗ル強捩ト類似セル點ナリトス、固ヨリ綬草花穗ニ於テハ外觀

○東京植物學會錄事（入會　退會）
雜報（チャペック教授ノ轉任　○會員消息　新刊紹介　○松村博士監修新撰植物圖編　○大日本植物誌）

○チャペック教授ノ轉任

現ニ濠國ブラーグ大學教授タルチャペック氏ハ今般ロンドン大學ノ聘ニ應ジ Imperial College of Science and Technology ニ於ケル植物生理及病理學ノ講座ヲ擔任スベシト

○會員消息

○理科大學植物學科ノ本年度ノ卒業生幷ニ其ノ卒業論文左ノ如シ

乳管ノ生理解剖　縫縫理一郎
植物ノ注射試驗　遠藤保太郎
日本產唇形科植物　工藤祐舜
本邦產二三蟲癭ニ就テ　直保一輔

◎新刊紹介

松村博士監修新撰植物圖編 第一編 第二集

本集載スル所ノ植物次ノ如シ　こまゆり（新稱、彩色圖）、ひめにら、たかねまつこな（新稱）とげあざみ、おほのあざみ、おにあざみ、にっくわうあざみ、（以上中井氏圖說）えぞみやまきんばい、ひめかんば、えぞさんざし、のうごいちご（以上小泉氏圖說）いはなし、けあくしば、しろやしほ、ひめすのき（以上小松氏圖說）以上拾五種

○大日本植物誌 第一卷 第四集

理科大學植物學教室編纂牧野富太郎氏執筆ノ同誌第一卷第四集ニ載スル所ノ植物左ノ如シもくれいし、おほやまざくら、ほていらん、以上參種。

◎東京植物學會錄事

○入會

京都府南桑田郡河原林字河原尻　（兒玉親輔君紹介）　竹內敬
臺灣恒春龜仔角山　（桑田義備君紹介）　稻村時衛
清國蘇州第一師範學校　（永井元吉君紹介）　王朝陽
橫須賀市中里湘南病院　（松木彦七郎君紹介）　千潟簾

○轉居

佐賀縣立佐賀中學校　山田友記
長野縣上田町鷹匠町　高橋貞吉
岡山市門田屋敷百六十九番地　大渡忠太郎
北海道函館區新川町二百七十四番地　藤澤誠太
栃木縣烏山中學校　高橋新太郎
東京市本鄉區駒込千駄木町百六十五番地　畠山久重
同　本鄉區駒込富士前町五十五番地　河野福太郎
栃木縣芳賀郡茂木町專賣局茂木製造所　木元長太郎

ニ其位置ヲ占メテ可ナル天籍ヲ有ス

○禾本ノ一新屬 Hakonechloa Makino.

牧野富太郎

今此ニ我邦産ノ禾本科中ニ一新屬ヲ建ツ之ヲ Hakonechloa ト云フ本品相州箱根山中殊ニ多ク本種ノ中心ヲナセルヲ以テ箱根禾本ノ意ニ基キテ之ヲ Hakonechloa ト新稱セリ本屬ニ屬スルモノ唯一種、之ヲよしくさト云フ世間ニ呼ブトコロノうらはぐさ又ふうちさう(當ニちふうさうト唱フベキヲ此ク顚倒シテ稱セリ)是ナリ本種從來よし屬即チ Phragmites ノ一種ト爲ス予ハ之レニ服セズ今此ニ一新屬ヲ建ツルコト前述ノ如シ委曲ノ記事ハ他日ニ讓リ先ヅ此ニ其新訂名ヲ錄セン卽チ左ノ如シ

うらはぐさ (一名) ふうちさう、よしくさ、おほやよし、ひろはのたつのひげ、やまよし

Hakonechloa macra (Munro) Makino (gen. nov.)
=Phragmites macer Munro in Journ. Bot. (1877), p. 350.

本屬ハ蓋シ多少ぬまがや屬卽チ Molinia ニ關係ヲ有スルナラン乎

○禾本ノ一新種つるよし

牧野富太郎

よし屬卽チ Phragmites 屬中ノ邦産ニつるよし一名ちしばりアリ河原ノ砂地ニ生ジ匐枝長ク地面上ニ曳キ四方ニ擴ガリ後、節ヨリ苗ヲ發シテ次年ノ新株ヲナス葉鞘紅紫色ヲ帶ブルコト饒シ花穗、莖、葉酷ダよし (Ph. communis Trin.) ニ類シ瞥見恰モ之レト同種ノ如ク想ハルヽト雖ドモ然モ是レ儼然タル別種ノ品ニシテ固ヨリ彼レト同種ニアラズ又變種ニダモナシ其匐枝ニ見ヨよしノ如ク地面下ニ走ルニアラズ其葉鞘ニ見ヨよしノ如ク口緣ノ一角小耳アルニアラズ又其莖節ニ見ヨよしノ如ク無毛ナルニアラズ其他ノ諸點看來レバ一致セザルモノ寡ナカラズ之ヲよしト同種ト看ルハ眼光紙背ニ透ラザルナリ予乃チ新學名ヲ下シ之ヲ **Phragmites prostratus** Makino, (sp. nov.) ト云フ詳述ハ近キニ在リ

◎雜報

○ストラスブルガー教授ノ逝去

ストラスブルガー教授ハ五月十九日現任地ボンニ於テ卒中ノ爲メ逝去セラレタリ、教授ノ傳記逸話等ハ追テ本誌ニ揭載スベシ、

○蒲桃ニ二ツノ意義アリ

松田定久

蒲桃ハ今ふともも (Jambosa vulgaris DC.) ノ漢名トシテ用ヒラル植物名彙ニ廣東新語ニ據リテ記サレタルモノ是ナリ此植物ハ桃金孃科ニ屬スルモノニシテ觀賞用トシテ著シ是其一ツノ意義ナリ

又蒲桃ハ葡萄ト其字音近似ス或ハ同一ト云フモ可ナルベシ之ヲ廣群芳譜葡萄ノ條ニ徵スルニ左ノ如キ記事アリ

葡萄古作蒲桃、又作蒲陶、漢書西域傳云、罽賓國有蒲陶諸果、

北齊書李元忠傳云、元忠曾貢世宗葡萄酒一盤、世宗報以百練縑遣、其書曰、中略忽辱蒲桃、良深佩戴、下略是レハ同一ノ事ヲ記スルニ葡萄幷ニ蒲桃ノ文字ヲ併用セリ

魏鍾會、宋宋祁、幷有蒲桃賦、晉潘岳閒居賦云、石榴蒲桃之珍、磊落蔓衍乎其間、

山西通志平陽府ノ條ニ云ヘリ

葡萄、出安邑、釀以爲酒、甘於麴糵、善醉而易醒、其圓者名草龍珠、長者名馬乳葡萄、白者名水晶葡萄、黑者名紫葡萄、漢書作蒲桃、

以上摘錄スル所ニ據ルニ葡萄、蒲桃、蒲陶ハ皆同一ノ物ヲ表セリ卽 Vitis 屬ノ植物ナリ是ハ蒲桃ノ第二ノ意義ナリ

○竹ノ一新屬 Shibataea Makino

牧野富太郎

從來はちく屬卽チ Phyllostachys 屬ニ屬セシメアル小竹おかめざさアリ大小懸絕はちく、まだけ、まうそうちく ノ匹儔ニアラズ予ハ或ル理由ヲ基トセル所信ニ據リ今之ヲシテはちく屬ヨリ分離セシメ以テ一ノ新屬ヲ建テント欲シ乃チ曾テ本邦產竹類ノ內景ヲ精研シテ斯學界ニ一光明ヲ與ヘラレタル理學博士柴田桂太君ノ姓ヲ取リ以テ之ヲ Shibataea ト爲ス卽チおかめざさ屬ナリ其詳述ハ遠カラズ之ヲ發表スベキヲ期シ先ヅ此ニ其名稱ヲ公ニスルコト左ノ如シ

おかめざさ（一名ぶんござさ、ごまいざさ、かぐらざさ、めごやち、

Shibataea ruscifolia (Sieb.) Makino, (gen. nov.)

= Bambusa ruscifolia Sieb. ex Munro in Trans. Linn. Soc. XXVI. (1868), p. 157.

= Bambusa Kumasasa Zoll. Syst. Verz. Ind. Archip. I. (1854), p. 57; (Steud.) Syn. Pl. Gram (1855), p. 331.

= Phyllostachys Kumasaca Munro, l. c. p. 39.

= Bambusa viminalis Hort.

新ニ分家セル此 Shibataea ハ其母屬 Phyllostachys ノ隣

○支那ニテ植物ノ和名ヲ漢譯シタル例

松田定久

福建ノ人翁櫚菴著花暦百詠中五月ノ部ニ天麻裏掛ノ文字アリ自注ニ閩南琪樹、海外瑤葩云々其自國ノ産ニアラザルコト知ルベシ是ハ先輩ノ考證ニ據レバ日本ノてまりばなヲ漢字ニテ記シタルナリト云フ櫚菴ハ康熙年間ノ人ナリ故ニ植物ノ和名ガ直ニ漢名トナリタルモ頗ル久シト云フベシ

近頃寧波ノ人張之銘氏ノ送ラレタル標本ヲ見ルニ和名ヲ直ニ漢字ニ改メタルモノ頗ル多シ其二三ノ例ヲ擧ゲンニ青田子トハあおたご(Euscaphis)ノ漢名、姫葛トハひめくず(Tamberlikia)ノ漢名、總藻ハふさも(Myriophyllum)ノ漢名姫小運翅ハひめおとぎり(Hypericum)ノ漢名ナリ(此等ノ新漢名ハ手記ニ止マラズ印刷シアリ)此ノ如ク植物ノ漢名ヲ勝手ニ定ムルコトノ得失ハ別問題トシテ爰ニハ植物ノ新漢名ガ續々製造セラルヽコトヲ報ズルニ止ム

因ニ記ス天麻裏掛ノ掛ハ花ノ字音ノ訛ナリトハ先輩ノ考證アリ(花暦百詠ノ叙文)サレドモ是レハ懸掛ノ義ニテ手毬掛ノ意義ト愚考スルナリ何トナレバ同書五月ノ條中ニハ「一丈紅見ユ」「決明開ク」「湘竹斑アリ」「竹醉フ」ナドト記シテ植物名ノ下ニ働キ詞ヲ配シアルヲ以テ掛ノ字モ亦働キ詞ト解スル方穩當ナラン歟

○東亞産槭樹科ノ新種

小泉源一

レーダー氏(A. Rehder); ウィルソン氏(E. H. Wilson)ガ支那内地ニ於テ採集セル多クノ植物報告(Plantæ Wilsonianæ, 1911.)中ニ槭樹科ノ新種又ハ新變種トシテ發表セシモノ次ノ諸種アリ

Acer fulvescens. Rehder.
Acer cappadocicum, var. sinicum, Rehder
〃　〃　, var. horticolor, Rehder
〃　〃　, var. indicum, Rehder
Acer amplum, Rehder.
〃　amplum. var. tientaiense, Rehder,
〃　catalpifolium, Rehder
〃　ceratum, Rehder
〃　Oliverianum, var. serrulatum, Rehder
〃　laxiflorum. var. longilobum, 〃
〃　,tetramerum, var. betulifolium, 〃
〃　〃　var. elobulatum, 〃
〃　〃　〃　tiliifolium, 〃
〃　nikoense, var. megalocarpum, Rehder

治四十四年八月、磐城國中村ノ垣杭上ヨリ採集セリ。

○にくいろはたけ(新稱)

Polyporus heteroporus Fries = **P. rufescens** Fries. var. **flabelliforme** Pers.

(所屬) 同上。

菌傘ハ扇狀ヲ爲シ、太キ短柄ヲ側生ス、長徑五乃至一二「センチメートル」、短徑三・五乃至八「センチメートル」アリ、淡肉色ヲ帶ビ、海綿樣栓質ニシテ、表面ニ天鵞絨樣ノ密毛ヲ被ムル、裏面ハ白肉色ヲ呈シ、菌管ノ孔ハ大キクシテ、往々波形ニ裂ク仙臺ノ林地ニ生ズ。

○ぶだうたけ(新稱)

Polyporus vinosus Berk.

(所屬) 同上。

菌傘ハ無柄ニシテ、半月狀ヲ爲シ、栓質ヲ帶ブ、長徑四乃至七「センチメートル」、短徑二乃至三「センチメートル」、アリ、表面ハ葡萄色ヲ呈シ、略ボ平滑ニシテ、著シカラザル輪層ヲ具フ、裏面モ同ジク葡萄色ニシテ、菌管ノ孔ハ微小ナリ、群馬縣勢多郡、芳賀村ニ產ス、角田金五郎氏ノ採集ニ係ル。

○しらげたけ(新稱)

Polystictus versatilis Berk.

(所屬) 同上。

菌傘ハ無柄ニシテ重生ス、薄クシテ半圓狀ヲ爲シ、栓質ヲ帶ブ、長徑三乃至五「センチメートル」、短徑一・五乃至三「センチメートル」アリ、表面ハ灰色ニシテ輪層ヲ有シ、長キ疎毛ヲ被ムル、裏面ハ黃褐色ニシテ、菌管ノ孔ハ可ナリ大キク、不規則ナル多角形ヲ呈シ、孔緣往々延長シテ、齒狀ヲ爲ス、本品ハ元來熱帶種ナリ、仙臺ノ林地ニ生ズ。

○あをかはらたけ(新稱)

Polystictus versicolor (L.) Fries, **f. azureus** (Fries).

(所屬) 同上。

かはらたけノ一形ニシテ、菌傘ノ表面ハ、全部暗藍色ヲ呈ス、輪層ハ密ニ發達シ、細毛ヲ帶ブ、裏面ハ白色ニシテ、老ウレバ稍黃色トナリ、菌管ノ孔ノ小サクシテ淺キコト、全クかはらたけト同ジ、福島、岩手諸縣ニ產ス。

○ひめほくちたけ(新稱)

Fomes minutulus P. Henn.

(所屬) 同上。

菌傘ハ無柄ニシテ、半圓狀ヲ爲シ、小サクシテ可憐ナリ、長徑二乃至四「センチメートル」、短徑一乃至二「センチメートル」アリ、硬クシテ木質ヲ帶ビ、實質ハ赭褐色ヲ呈ス、表面ハ平滑ニシテ、灰褐色ヲ呈シ、黑褐色ノ輪層ヲ具フ、裏面モ灰褐色ニシテ、菌管ノ孔ハ圓ク、且ツ小サシ、上州赤城山ニ產ス、角田金五郎氏ノ採集ニ係ル。

物ノミヲ生ジ四分胞子ヲ蒔キタルモノヨリハ有性的植物ノミヲ生ジタリト云フ、三種ノ植物トハ *Polysiphonia violacea*, (*Griffithsia Bornetiana*, *Dasya elegans*. ニシテ *Polysiphonia violacea* ノ子嚢胞子ヨリハ生殖器ヲ著生セザル若干個體ノ外ハ六個ノ無性的植物ノミ發生シ(*Griffithsia Bornetiana* 及ビ *Dasya elegans* ノ四分胞子ヨリハ若干ノ生殖器ヲ著生セザル個體ノ外ハ有性的植物ノミ發生シ前者ニ於テハ六十後者ニ於テハ百四十九ノ多キニ達スル有性的植物發生シタリト云フ、茲ニ注目スベキハ四分胞子ヨリ發生スル有性的植物ノ性(セックス)ニシテ著者ノ實驗ニ據ル時ハ同一ノ個體ニ生ジタル四分胞子ヨリハ畧同數ノ雌性幷ビニ雄性ノ植物發生スルモノナルガ如シト云フ、例ヘバ *Griffithsia Bornetiana* ニ於テハ同一ノ四分胞子嚢ヨリ脫離シタル胞子ガ離散スル事ナク四箇一所ニ團結シ居ルガ如キ觀ヲ呈スルモノ間々存在シ是等ノ胞子ヨリ二個ハ雌性二個ハ雄性ノ植物發生シ居ルヲ著者ハ實見セリト云フガ如キモ其ノ一證ナルベク又本植物ノ一個體ニ生ゼル四分胞子ヲ蒔キテ生ジタル四十五個ノ箇體ノ內八個ハ未熟二十個ハ雄性十七個ハ雌性ナリト云ガ如キモ亦其ノ一證ト稱スルコトヲ得ベシ、

著者最初此ノ種ノ實驗ヲ室內ニ於テ行ハント企テタリト雖モ終ニ成功スルコト能ハザリシヲ以テ先ニ Horn. 氏ガ同樣ノ實驗ヲ褐藻類ノ一種 *Dictyota dichotoma* ニ於テ試ミタル際採用セルかきノ貝殼ニ胞子ヲ蒔キ付ケ時ヲ經テコレヲ海中ニ沈ムルノ方法ヲ襲用シ前述ノ結果ヲ獲得セルモノナリト云ヘ、著者ノ經驗ニヨルトキハ胞子ヲ蒔キタル後二日ヲ經ル時ハ幼植物ハ早ク既ニかきノ貝殼ニ固著スルヲ以テコレヲ海中ニ沈ムルモ何等ノ支障ヲ生ゼズト云フ (M. F.)

◎雜　錄

○菌類雜記（八）

安田篤

○あみすぎたけ

Polyporus arcularius (Batsch) Fries.

(所屬) 基菌門、眞正基菌亞門、同節基菌區、幅菌亞區、さるのこしかけ科、さるのこしかけ亞科。

子實體ハ軟革質ニシテ、菌傘ト中柄トヲ具フ、菌傘ハ圓クシテ、頂點凹ミ、緣邊ニ纖毛ヲ帶ブ、直徑二乃至三「センチメートル」アリ、表面ハ黃色ニシテ、褐色ノ平タキ鱗片ヲ疎生シ、輪層ヲ缺ク、裏面ハ黃褐色ヲ呈シ、菌管ノ孔ハ頗ル大キクシテ、菱形ヲ爲ス、其直徑一乃至二「ミリメートル」アリ、菌柄ハ灰褐色ニシテ、小サキ褐色ノ鱗片ヲ被ムリ、長サ約二「センチメートル」アリ、明

一、萼筒ノ長サハ太サト同一カ又ハ少シク小ナリ、内面ハ無毛ナリ。子房ハ無毛ナルカ又ハ頂部ニ少シク微毛アリ……Spiraeopsis.

二、萼筒ハ圓柱形、稀ニハ長サト太サト相等シ然ル時ニハ其内面有毛ナリ。子房ハ上半有毛ナルヲ普通トスレドモ極テ稀ニ平滑ナリ。……Amygdalocerasus.

……

第三區 **Spiraeopsis,** KOEHNE.

第十四亞區 **Myricocerasus,** KOEHNE (葉ハ下部二分ノ一又ハ三分ノ一全緣ナリ前部ハ粗ニ鋸齒アリ。葉柄ハ二—十—十五ミ、メ長シ。果實ハ黑色ナリ。北米ノ P. pumila, L; P. Besseyi, L. H. BAIL 之ニ屬ス)

第十五亞區 **Spiraeocerasus,** KOEHNE (葉ハ全部鋸齒、二重鋸齒、鈍鋸齒等アリ、葉柄ハ二—六—九ミ、メ長シ果實ハ赤色ナリ。P. dictyoneura, DIELS; P. humilis, BGE; P. japonica THG; P. glandulosa, THG. (之ノ前者ノ變種ナリ) P. pogonostyla. MAX; P. Nakaii; LEVL; P. carchanis, KOEHNE 等東亞ニ分布ス

第四區 **Amygdalocerasus,** KOEHNE.

P. pectinata. (KOCH) KOEHNE (ヒマラヤ); P. tomentosa, THG. トルキスタン、ヒマラヤ、東西藏、支那中部) P. cinerascens, FR; (東西藏) P. Batalinii, (SCHN) KOEHNE (中央支那) P. Jaquemontii, HOOK. fil (アフガニスタン、ヒマラヤ西藏) P. Griffithii, (BOISS) SCHN (アフガニスタン) P. incrucosa, FR; P. diffusa, SCHN (共ニペルシヤ); P. brachypetala, MAXIM (ペルシヤ、トルキスタン); P. prostrata, LABILL. カシミール、天山、ペルシヤ、小亞細亞、シリア、クレタ、北亞弗利加、南部歐洲); P. microcarpa, C. A. MEY (コーカシア、トランスコーカシア、クルジスタン、カツバドチア、アンチレバノン) P. incana, STEV. (小亞細亞、アーメニア、ゼヲルジア、) 等之ニ屬ス

(G. KOIDZUMI.)

○レーヴィス氏『紅藻類ノ世代ノ交番』

Lewis, I. F.:——Alternation of Generation in Certain Florideæ. (Bot. Gaz. Vol. LIII. No. 3 March, 1912.)

山内氏ノ *Polysiphonia* 本著者ノ *Griffithsia* SYEDELIUS 氏ノ *Dubesseria* ニ於ケル細胞學的研究ガ少クトモ紅藻類ノ是等ノ屬ニ於テ蘚苔類羊齒類等ニ於テ見ルト略同樣ナル規則正シキ世代ノ交番ナル現象ノ存在スル事ヲ證明シテ餘リ有ルモノナル事ハ萬人ノ普ク認ムルトコロナルガ本著者ハ尙ホ進ミテ紅藻類ノ或ル者ヲ實際ニ培養シ紅藻類ノ世代ノ交番ニ關スル動カスベカラザル實證ヲ得ンコトヲ期シ十七種ノ紅藻類ヲ選ミ過去二夏ノ間 Woods Hole ニ於テコレガ實驗ニ從事セリ、不幸ニシテ種々ナル原因ノ爲メニ大半ハ失敗ニ終リタリト雖モ內三種ニ關スル實驗ハ見事ニ成功シ子囊胞子ヲ蒔キタルモノヨリハ無性的植

ヤ、シャム、支那日本南部ニ産ス

第十二亞區 **Microcalymma,** Koehne.

P. Heriquiana, Lav. (之ハ一部ヒガンサクラ一部ハコヒガンサクラナリ) P. subhirtella, (Miq) Kodz; P. pendula, Max (之ハ P. itosakura, Sieb ナリ) P. microlepis, Koehne; P. taiwaniana, Hay (之ハヒガンサクラナリ) 等東亞ニ分布ス

第十三亞區 **Ceraseidos,** Koehne, 1912

一、苞ハ葉狀ナリ……Phyllopodium.

苞ハ葉狀ナラズ……二

二、苞ハ三―八ミ、メ長ク緣邊ノ腺甚多シ……Droserina

苞ノ腺左程多ラズ……三

三、葉ノ鋸齒ハ急ニ小漸尖頭ナリ其頂ニハ腺ノアルアリ又ハナシ……四

葉ハ鈍鋸齒アリテ其先ニ稍著シキ腺アリ……Amblyodon

四、葉ノ鋸齒ハ尖銳ニシテ其先ニハ腺ノアルアリ又ハナシ……Oxyodon

葉ハ鈍鋸齒ナレドモ其先ハ急ニ尖レリ　小形ナレドモ明ナル腺アリ……Eucerseidos.

第一類 **Phyllopodium,** Koehne, (1912).――P. veitchii, Koehne; P. canescens, D. Pois; P. setulosa, Batal; P. phyllopoda, Koehne. 皆中部支那産ナリ

第二類 **Droserina,** Koehne, (1912).――P. droseracea, Koehne; P. Giraldiana, Schn 中部支那産ナリ

第二類 **Oxyodon,** Koehne. (1912).――P. incisa, Thg; P. trichostoma, Koehne; P. latidentata, Koehne; P. glyptocalya, Koehne; P. pleuroptera, Koehne; P. lobulata, Koehne; P. podadenia, Koehne; P. zappeyana Koehne; P. micromeloides, Koehne, P. stipulacea Max. 等東亞ニ分布ス

第四類 **Euceraseidos,** Koehne (1912.)――P. caudata, Fr. P. kurilensis, Miyabe; P. iwagiensis, Koehne(日本ニ産スト云フ); P. nipponica, Matsum; P. autumnalis, Koehne (日本ニアリト云フ) P. nikkoensis, Koehne (日本産ト云フ); P. Miqueliana, Max (之レニひがんナリ), P. Tschonoskii, Koehne (日本産ナリト云フ); P. apetala. Fr. et Sav. (大部分日本産ナリ著者ハ其記事ヲ公ニセル時ニハ此大多數ノ日本櫻ト稱スルモノハ眞相明ニナルベキモ吾人ハ頗ル其多數ヲ疑ハザルヲ得ズ)

第五類 **Amblyodon,** Koehne, (1912)――P. Rossiana, Koehne; P. gracilifolia, Koehne. (亦皆支那産ナリ。氏ノ日本櫻ノ分類ヨリ推ス時ハウィルソン氏採集ノ支那櫻分類ノ狀亦大ニ類似スル所アラン)

第二群 **Microcerasus,** (Spach) Koehne

葉腋ニ生ル芽ハ初一箇ナレドモ後ニ其兩側ニ又各一箇ヲ生ジテ三箇トナル、花ハ初兩側ノ芽中ニ包ル

新著　○ケーネ氏『櫻亞屬新分類法』

hne; P. cyclamina, Koehne; P. Dielsiana, Schn. 亦皆中央支那ノ產ナリ

第二區 Psendocerasus, Koehne, 1893.

花時萼片ハ水平ニ開クカ又ハ直立ス、萼筒ハ圓柱形ナリ、(亞區ノ分類ハ材料ノ不完全ナルモノ多キタメ不十分ナラント)

一、葉ノ下面ニ腺點アリ……Hypadenium.

腺點ナシ……2

二、芽鱗片ハ一ヒ、メ、又ハ其以上ナリ。葉ハ缺刻シ又ハ淺裂スルコトナシ……3

芽鱗片ハ小ナルカ又ハ葉ハ深ク二重鋸齒アリ……六

三、果實柄ハ纖細ナルカ又ハ先端ノミ太シ……四

果實柄ハ太ク硬直ナリ、核ハ小淺凹所多ク先端ハ鈍ナリ稀ニハ銳ナリ……Puddum.

四、萼筒ハ高盆狀又ハ細キ圓柱形ナリ、花時葉アリ稀ニハナシ、核ハ常ニ平滑ナルガ如シ……Sargentiella

萼筒ハ鏡狀又ハ太キ圓柱形ナリ……五

五、花時葉ナシ、葉ノ鋸齒ハ可ナリ大形ナリ核ハ其面多クハ平滑ナリ……Conradinia

花時葉アリ、葉ノ鋸齒ハ小形ナリ、核ハ其面小淺凹所多ク先端ハ鈍形ナリ……Serrula

六、葉ノ鋸齒ハ小形又ハ可ナリ大形ナリ、芽鱗片ハ五―七ミ、メナリ……Microcalymma.

葉ハ缺刻シ又ハ小淺裂ス……Cerasoides.

第七亞區 Hypadenium, Koehne 1912.

P. glandulifolia, Rupr. et Max. (滿州、朝鮮、黑龍江州ニ分布ス)

第八亞區 Sargentiella, Koehne

P. Twymaniana, Koehne; P. tenuifolia, Koehne; P. Wildeniana, Koehne; P. concinna, Koehne; P. pseudocerasus, Lindl (本種ハ第一區ニ屬スベキモノナリ) P. serrulata, Lindl (本種ハ P. donarium, Sieb ナラン); P. Leveilleana, Koehne; P. Sontagii, Koehne; P. sargentii, Rehd. (本種ヲ一ノ種トスルトキハ P. sachalinensis, (Schmd) Koidz ノ學名ヲヨシトス); P. paracerasus, Koehne; P. parvifolia, (Matsum) Koehne (本種ハやまざくらノ變種ナリ)等東亞ニ分布ス

第九亞區 Conradinia, Koehne, 1912.

P. Helenæ, Koehne; P. conradinæ, Koehne; P. saltuum, Koehne; P. sprengerii, Pampan; P. pauciflora, Bge; P. Yedoensis. Matsum. 等東亞ニ分布ス

第十亞區 Serrula, Koehne, 1912.

P. serrula, Fr; P. majestica, Koehne 皆支那產ナリ

第十一亞區 Puddum, Koehne

P. cerasoides, D. Don; P. rufa, Steud; P. trichantha, Koehne; P. Hossensii, Diels; P. campanulata, Maxim. 等ヒマラ

又ハ少シアルコトアリ……Pseudomahaleb.

五、總狀花序ハ三―九花ヲ以テナリ花序柄アリ……Phyllomahaleb.

總狀花序ハ一―四花ヲ以テナリ花序柄殆ナシ……Phyllocerasus.

第一亞區 **Mahaleb,** (Roem) Koehne. 1912.

第一類 *Eumahaleb,* Koehne.(葉ハ圓形、花被ハ平滑ナリ、果實熟シテ多ハ黑色ナリ、) Prunus Mahaleb, L. ノ一種アリテ歐洲、小亞細亞、シリア、コーカシア、トルキスタンニ產ス

第二類 *Pseudomahaleb,* Koehne, 1912.(葉ハ長形、花被ハ基部ニ毛アルヲ普通トス、果實ハ赤色ナリ)P. emarginata, Walp.; P. mollis, Walp.; P. pensylvanica, L. 皆北米產ナリ

第二亞區 **Eucerasus,** Koehne, 1912.

皆舊大陸ノ西方產ナリ、P. fruticosa, Pall.(中歐、伊太利、露西亞南部、トランスコーカシア、西部西比利亞) P. Actaea, C. Koch (ボスニア、ダルマシア) P. Cerasus, L. (コーカサス、アナトリア、マセドニア) P. avium, L.(歐洲、小亞細亞、コーカサス)

第三亞區 **Phyllomahaleb,** Koehne

第一類 **Aphanadenium,** Koehne.(葉及ビ苞ノ鋸齒ニアル分泌腺ハ甚小ナレドモ苞ノ基部ニアルモノハ時ニ大形ナルコトアリ) P. pulchella, Koehne.(湖北省) P. Maximowiczii, Rupr.(黑龍江州、朝鮮、樺太、日本)

第二類 **Macradenium,** Koehne (葉ノ鋸齒殊ニ苞ノ鋸齒ニアル分泌腺ハ大形ニシテ圓錐形ヲリ盤狀トナル) P. conadenia, Koehne; P. pleiocerasus, Koehne; P. macrodenia, Koehne; P. szechuanica, Koehne; P. discadenia, Koehne. 皆支那中部ノ產ナリ

第四亞區 **Phyllocerasus,** Koehne 1912.

P. tatsienensis, Batal.; P. laurifolia, Schn; P. pilosiuscula, (Schn) Koehne; P. variabilis, Koehne P. polytricha, Koehne; P. Rehderiana, Koehne; P. venusta, Koehne; P. litigiosa, Schn. 皆支那中部ノ產ナリ

第五亞區 **Pseudomahaleb,** Koehne, 1912.

P. yunnanensis, Fr; P. Henryi, (Schn) Koehne; P. negiecta, Koehne, P. magregoriana, Koehne 皆中央支那ニ分布ス

第六亞區 **Lobopetalum,** Koehne, 1912.

第一類 **Heterocalyx,** Koehne (萼片ハ萼筒ヨリ小ナリ) P. Duclouxii, Koehne; P. ampla Koehne; P. scopulorum, Koehne; P. glabra, (Pamp) Koehne; P. involucrata, Koehne; P. malifolia, Koehne P. hirtipes, Hemsl. P. Schneidriana, Koehne. ノ諸種皆中央支那ノ產ナリ。

第二類 **Cyclaminium,** Koehne (萼片ハ萼筒ヨリ大ナリ) P. pelurinervis, Koehne; P. rufoides, Schn; P. hirtifolia, Koe-

var. *cristatum* f. *pallescens* Warnst.（日本特産）日光、アラマキ

var. *subtere* f. *densissimum* Warnst. 朝鮮特産

var. *affine* f. *glaucescens* subf. *squarrosulum* (Ren. et Card.) Warnst. 內地

36. *S. hakkodense* Warnst et Card.（日本特産）八甲田山

37. *S. papillosum* Lindb.）內地

38. *S. japonicum* Warnst. var. *microphyllum* Warnst.（日本特産）土佐

var. *gracile* Warnst. 信州

39. *S. cymbifolium* Ehrh. 內地、樺太、臺灣

40 *S. sulphureum* Warnst.（日本特産）島原

41. *S. pseudo-cymbifolium* C. Müll. 臺灣

42. *S. subbicolor* Hampe 內地

43. *S. medium* Limpr. 內地

氏ノ分類ハ葉ノ横斷面ニ於ケル細胞ノ配置、大サ、形狀ニ主キヲ置ケリ、故ニ本書ヲ參考シテ本屬ヲ研究セント欲セバ先ヅ顯微鏡ト Micrometer トヲ準備セザルベカラズ、（中井）

○ケーネ氏『櫻亞屬新分類法式』

Koehne, E.:—Eine neue Einteilung der Kirschen, *Prunus*, Subgen. *Cerasus* (Wissenschaftl. Beil. z. Jahresb. d. Falk-Realg. z. Berl. 1912. p.p.1–16.)

著者ハカツテ一八九三年獨逸樹木學ヲ著シ初テ櫻亞屬ノ分類ヲ試シガ此度エングラー氏監修ノ「植物界」ニ核果科植物誌ヲモノスルノ前提トシテ先ヅ櫻亞屬ノ一般分類法式ヲ公ニセリ、之ニ於テ氏ハ既知數十種ヲ二群、四區、十五亞區ノ中ニ配シタリ

第一群 **Typocerasus, Koehne,** 1912.

葉液ニハ常ニ一ケノ芽ヲ生ズ

第一區 **Crematosepalum,** Koehne, 1912.

萼筒ハ倒圓錐形ニシテ萼片ハ花時必反轉ス、

一、葉ニハ鈍鋸齒アリテ分泌腺ハ其（鋸齒）ノ頂ニアリ

ハナシ……2

二、鋸齒ハ小形、花芽ノ芽鱗ハ甚ダ早落ス…Mahaleb.

鋸齒ハ中形、芽鱗ハ永存性ナリ……Eucerasus.

三、花瓣ハ全緣ナリ……4

花瓣ハ二裂シ又ハ鈍鋸齒アリ……Lobopetalum.

四、苞ハ葉狀大形ニシテ永存性ナリ、花時葉アリ…5

苞ハ小形ニシテ多クハ花時ニハナシ花時葉ナシ

7. *S. kiiense* Warnst. (日本特産) 紀州
8. *S. subacutifolium* Schpr. (日本特産) 横須賀
9. *S. quinquefarium* (Linde.) Warnst. 信州
10. *S. Junghuhnianum* Dz. et Molkenb. *a. typicum* Warnst. 臺灣、美濃、金華山
f. completum Warnst. (日本特産) 臺灣、土佐
var. *pseudomollе* Warnst. 臺灣、宮島
11. *S. plumulosum* Röll.) 内地
12. *S. dielatum* Warnst. (日本特産) 月山

Subsect. *Rigida* (Linde.) Warnst.
13. *S. compactum* DC. 刈田山、月山、岩手山

Subsect. *Squarrosum* Schlieph.
14. *S. squarrosum* Pers. 内地

Subsect. *cuspidata* Schlieph
15. *S. Lindbergii* Schpr. 内地
16. *S. acutum* Warnst. var. *kabanaense* Warnst. (日本特産) 白山
17. *S. Jensenii* Lindb. fil. 信州
18. *S. connectens* Warnst. et Card. (日本特産) 青森
19. *S. recurvum* Pal. de Beauv. 青森
20. *S. serratum* Aust. var. *serrulatum* (Schlieph) Warnst. 日本
21. *S. drepanocladum* Warnst. var. *latilimbatum* Warnst. (日本特産) 土佐、小瀬、伊勢
22. *S. septentrionale* Warnst. (日本特産) 土佐
23. *S. cuspidatum* Ehrh. 内地
24. *S. tosaense* Warnst. (日本特産) 土佐
25. *S. molluscum* Bruch. var. *angustifolium* Warnst. 内地

Subsect. *subsecunda* Schlieph.
26. *S. oligoporum* Warnst. et Card. 朝鮮特産
27. *S. microporum* Warnst. 朝鮮特産
var. *juxtaisense* Warnst (日本特産) ジュンサイ沼
28. *S. Miyabeanum* Warnst. (日本特産) 釧路
29. *S. obscurum* Warnst. (日本特産ノ種)
a. latifolium Warnst. 千葉、陸前
β. angustifolium Warnst. 陸中、美濃、上總
γ. robustum Warnst. 陸前
30. *S. subobesum* Warnst. (日本特産) 青森
31. *S. calyptratophyllum* Warnst. (日本特産) 月山
32. *S. nemorense* Warnst. (日本特産) 羽前タカノ湯
33. *S. vyfiseens* Bryol. 内地
34. *S. guwassanense* Warnst. (日本特産) 月山

Sect. II. *Isophleba* Russ.
Subsect. *Cymbifolia* Lindb.
35. *S. imbricatum* (Hornsch) Russ.

未ダ本植物ノ生態ニ就キ的確ナル結論ヲ與ヘ得ベキニ非ルハ多言ヲ俟タスシテ明カナリ。

蟻巢中ノ有機分ハ直接ニ吸收セラルヽヲ得ルヤ又ハ一旦無機化スルヲ要スルヤハ興味アル問題ナリ、之レ關連シテ塊莖孔道中ニ硝化細菌等ノ存否ヲ檢明スルヲ要ス、著者ハ孔道面ノ煤色部ニ於テ著明ナル硝酸反應ヲ認知セリト云フ、共生蟻ノ餌食問題モ亦植物ニ對スル間接ノ營養源トシテ動物學者ノ研鑽ニ待タザルベカラズ。

之ヲ要スルニ著者ノ實驗觀察ハミルメコヂア問題ニ一生面ヲ拓キタルモノニシテ延テ近時生態學者間ノ論爭頗ル熾ナル一般蟻植物ノ意義ニ關スル疑問ニ對シ貢獻スル所尠カラズト云フベシ（未完）　（K. S.）

○ヴァルンストルフ氏『世界ノミヅゴケ科ノ分類』

Warnstorf, C.:—Sphagnales-Sphagnaceæ. (A. Engler: Das Pflanzenreich. 51 Heft. Dec. 1911.).

我邦高等隱花植物ノ分類ハ古來ヨリ比較的ヨク發達シ居レドモ既ニ蘚苔類以下トナリテハ大凡一群ノ名ヲ其群ノ各種ニ附シテ滿足スルノ狀態ニアル折柄本書ノ刊行ハ當ニ開拓スベキ新沃土ヲ得タルノ感ナクンバアラズ。先ヅ主ナル參考書類。本屬ノ特徵。發育機關ノ構造。生殖器官ノ發育。地理的分布。生態。近緣屬トノ關係。化石、効用等ヲ論ズルコト三十六頁。其レヨリ各論ニ入リ本屬ヲ二節十亞節三四二種ニ分類シテ各節、各亞節、各種ノ精密ナル檢索表ト細密至ラザルナキ記載ト注意事項ヲ記セルコト前後四八二頁最後ニ各種變種等ノ索引ヲ附セリ、卽チ前後五四六頁ニ亘ル一個尨大ナル雄篇ニシテ當ニKUENTHAL氏ノCarex屬ノMonographニ匹儔スベキモノナリ。（發行所ハ獨逸ライプチッヒノWILHELM ENGELMANニテ價二七馬半ナリ）其中我邦ニ產スルモノハ四十三種ニシテ內譯スレハ次ノ如シ、

Sect. 1. *Lithophloea* Russ.

Subsect. 1. *Acutifolii* Schliephl.

1. *S. fimbriatum* Wils. var. *evolutius* Card. forma *compactum* Warnst.（日本特產）青森、八甲田山、var. *laxifolium* Warnst.（日本特產）島原、ジュンサイ沼、劍山、八甲田山、青森、
2. *S. Girgensohnii* Russ. var. *squarrosum* Russ. 內地、樺太
3. *S. palleens* Warnst. et Card. 日本特產
4. *S. Russowii* Warnst. 內地、千島
5. *S. inceratum* Warnst. et *Card.*（日本特產）御嶽、駒ケ嶽
6. *S. fuscum* (Schpr.) V. Klingge. 北海道、日光

ルヲ見ル是レ蓋共棲蟻ノ所爲ニ他ナラザルベシ、著者ハ菌絲ヲ純粹ニ培養スルヲ得タリ寒天培養基上ニハ甚緩徐ニ生長シ緻密ニシテ皺襞アル聚落ヲ形成シ初メ灰色ニシテ後黝色トナル、其最適溫度ハ二十五度乃至三十度ニシテ略塊莖孔道內部ノ氣溫（最高三十二度・二、最低二十三度・一）ト一致ス、分類上ノ位置ハ Cladosporium 及 Cladotrichum ノ近緣種ナルガ如シ、著者ノ實驗ニ據レバ塊莖孔道中ニ於ケル菌絲ノ發育ハ共棲蟻ノ存否ト密接ナル關係ヲ有ス、之レ蟻糞ガ該菌ノ營養ニ供セラルヽノ事實ニ由リ說明スルヲ得ベシ、屢〻著者ハ褐色粘液樣ノ蟻糞ガ菌絲叢中ニ附著セルヲ檢知セリ、蓋共棲蟻ノ習性トシテ其蛹ヲ孔道ノ平滑部ニ於テ養育シ決シテ排泄物ヲ以テ之ヲ濟スコトヲナサズ、從ツテ專ラ疣狀體ノ近圍ヲ廁トシテ使用スルニ至レルモノナラン、著者ハ初メ共生蟻ガ其食餌ニ充テンガ爲メ該菌ヲ培養スルモノタルヲ想定シタレドモ一モ之ヲ支持スベキ事實ヲ捉フル能ハザリキ。

上記ノ觀察ニ基キミルメゴチア塊莖ノ生態的意義ヲ考察スルニ、其初メハ自余ノ著生植物ニ於ケルガ如ク貯水裝置トシテ塊莖ヲ發育シ爾後解剖的ノ原因（形成層面ノ排置等）又ハ材料經濟ノ原則或ハ其他ノ原因ヨリ內部ニ空隙卽チ孔道ヲ形成スルニ至レリ、而シテ此空隙ガ塊莖ノ表面ニ開口スルニ至レル動機ノ如何ハ頗ル說明ニ困難ナルガ要スルニ植物ハ之ニ由リテ外界トノ一新關係ヲ開クヲ得、水ハ今ヤ自由ニ塊莖ノ內部ニ侵入スルニ至レリ、斯クノ如キ狀態ガ特殊ノ吸水器官ノ發達ヲ促スコトハ他ノ著生植物ニ於テ其類例ニ乏シカラズ、卽チ孔道內部ニ於ケル疣狀體卽チ Haustorium ノ形成ハ敢テ理解ニ苦シマザル所ナリ、斯クシテ塊莖構造ノ成因ハ全ク蟻ニ關係ナク說明スルコトヲ得ベシト雖モ、今ヤ一旦或種ノ蟻ガ自己ノ棲息ニ適當ナル場所トシテ右ノ塊莖孔道ヲ擇擇シ茲ニ定住スルニ至ル時ハ植物ハ之ニ由テ一定ノ利益ヲ占得シ其結果更ニ其構造ノ分化ヲ進メ生態的關係ヲ改ムルニ至ルコト亦敢テ想察ニ難カラザル所ナリ、詳言スレバ共生蟻ノ排泄物ハ水ト共ニ疣狀體ニ由リ吸收セラレ塊莖ノ營養狀態ヲ佳良ニシ、由テ以テ植物ハ多數ノ良好ナル種子ヲ結ブヲ得ベク、從テ其分布區域ヲ擴大シ樹枝ノ高處ニ著生シテ充分ノ日光ヲ享受シ安全ナル生活ヲ營ムヲ得ルニ至ラン、斯クノ如ク說キ來ル時ハミルメコヂアノ現在ノ生態ハ旣ニ共生蟻ト一定ノ利益的關係ノ下ニ立ツモノトスルモ敢テ誣言ニ非ズ、若シ此想說ニ最後ノ斷案ヲ下サント欲セバミルメコヂアノ天產地ニ於テ一、蟻ヲ驅除セルモノ、二、蟻ヲ驅除セル後塊莖中ニ人工食料ヲ送入スルモノ、三、共生蟻ヲ有スルモノノ三者ニ就キ他ノ外圍狀態ヲ同一ニシテ比較的ニ觀察スルヲ必要トス、植物園等ニ移植セル標品ニ於テハ旣ニ其外圍狀態ニ著大ナル變化ヲ來セルヲ以テ彼ノトロイブ氏ノ試驗ノ如キハ

新著　○ミーエ氏「瓜哇ニ於ケル研究」

態尤モ著甚ナルモノヽ、一ニシテ巨大ナル塊莖ヲ以テ樹幹ニ著生セル狀態ヲ一瞥スル時ハ何人モ其養分攝取ノ方法如何ヲ疑ハザル能ハズ、從來諸學者ノ此等植物ノ生態ニ關スル所見ヲ略記スレバ、トロイブ氏ハ Myrmecodia (Hedyosa) ヲ實生ヨリ培養シ無蟻狀態ニ於テ能ク發育シ且其塊莖中ニ迷路的孔道ヲ形成スルコトヲ證明シ以テベカリ氏ノ蟻植物說ヲ否定スルニ至レリ、トロイブ氏ノ考說ニ據レバ該孔道ハ通氣裝置ニ他ナラズシテ其內面ニ存スル多數ノ疣狀體ハ皮目ノ用ヲナスモノナリト、ハーバーランド氏モ此說ニ賛シ、カーステン氏モ亦之ニ左袒スルノ傍孔道內面ニハ夜間蒸散水ヲ凝縮セシメ疣狀體ヨリ再ビ之ヲ吸收スルモノタルヲ唱ヘタリ、最近レッチヒ氏ハカーステン氏ノ考說ヲ以テ不充分ナリトシ塊莖ハ貯水組織タルノミナラズ直接雨水ヲ吸收スルノ能アルヲ立證センコトヲ試ミタリ、今著者ミーエ氏ハ嘗テワールブルヒ氏ノ論考セル如ク窒素及鹽分ニ富メル蟻糞ガ或ハ該植物ノ營養上何等カノ意義ヲ有スルモノニ非ルカノ點ニ著眼シ主トシテ左ノ問題ノ解決ニ努メントセリ、卽チ一、迷路孔道ノ內面ハ能ク水液ヲ吸收スルヲ得ルカ、二、迷路中果シテ蟻糞ノ堆積ヲ證明スルヲ得ルカノ二疑問之ナリ。

著者ハ瓜哇山中ニ於テ多數ノ Myrmecodia tuberosa 及 Hydnophytum montanum ヲ採集セシメボイテンソルクノ實驗場ニ於テ之ガ研究ニ從事セリ、原產地ニ於テハ該植物塊莖ノ孔道中ニ淡褐色ノ小蟻 Iridomyrmex Myrmecodiae ヲ接息セシム、然レドモ植物園ニ移植シタル標品ニ於テハ強力ナル黑色蟻來リテ往々短時日中ニ前者ヲ驅逐スルヲ見タリ要スルニ該褐色蟻ノ咬傷力ハ敢テ恐ルベキモノニ非ズシテベッカリ氏等ノ唱フルガ如ク特ニ外敵ニ對シテ宿主植物ヲ防護スルノ能アリヤ否頗ル疑フベシ、今塊莖ヲ剖キテ其內景ヲ窺フ時ハ迷路的孔道ニ二樣ノ部分アリテ交錯スルヲ認ムベシ、一ハ黃褐色ヲ帶ビ平滑ナレドモ他ハ黝煤色ニシテ疣狀體ヲ點在ス、蟻蛹ハ常ニ平滑部ニ在リ、今著者ハ孔道內面ノ吸水力ヲ檢知センガ爲メ、右黃褐色部ト煤色部トヨリ各小盃狀ノ斷片ヲ切取リ之レニ水ヲ充シ一定時ノ後再ビ之ヲ計測セルニ、煤色部ハ其全量ヲ吸收シ了レルニ拘ラズ黃褐色部ハ毫モ吸水ノ能ヲ有セザルヲ認メタリ、此兩部分ノ差違ハ一ニ疣狀體ノ有無ニ有スルヲ以テ該體卽チトロイブ氏ノ所謂皮目ハ水液吸收器官ニ他ナラザルヲ知ルベシ、其解剖上ノ構造ヲ見ルニ原形質ニ富メル細胞ノ數層幷列セルモノヨリ成リ、其狀態彼ノ單ニ通氣ノ用ヲ營ムベキ皮目ト同ジカラズ、著者ハ此故ニ疣狀體ヲ名ケテ Haustorium トナセリ、著者ハ塊莖ヲ割截スルヤ直ニ著明ナル菌臭ヲ發スルニ注意シ孔道內面ヲ鏡檢セルニ煤色部ハ疣狀體ノ表面ヲ除キテ一面ニ緻密ナル氣生菌絲層ヲ以テ被覆セラル、ヲ發見セリ、該菌絲ハ棍狀ニシテ分節シ其上面ハ屢均等ニ剪刈セラレタ

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(二) 中村、寺田、石谷氏、大島火山ノ過去及現在（地學雜誌第二十卷二三八、二三九號、四十一年）
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(五) 福地信世氏再豆南諸島ト富士火山帶ニ就テ（地學雜誌第十八卷二一　號、三十九年）
(六) 石井八萬次郎氏、富士帶ニ就テ（地學雜誌十八卷二〇九號、三十九年）
(七) 大久保三郎氏、伊豆巡島記（植物學雜誌第一卷、廿年）
(八) 白井光太郎氏、伊豆七島採集植物目錄（林學會雜誌第五號附錄、廿二年）

（終）

◎新　著

○ミーエ氏『瓜哇ニ於ケル研究』

Hugo Miehe: Javanische Studien (Abh. d. math.-phys. Kl. d. kgl. sächs. Gesells. d. Wiss. Bd. XXXII, N. IV.)
（頁數百三十二、插圖二十六）

著者ハ熱帶植物學研究ノ爲メ連年獨逸帝國植民省ヨリ派遣セラルヽ學者ノ一人トシテ一九〇九年ヨリ一九一〇年ニ亘ル冬半季ヲ瓜哇ニ費シ左記ノ研究ヲ遂ゲタリ。

一、ランヂア屬ニ於ケル攀援裝置

著者ハバタヰアトボイテンソルクノ中間ニ位スル一處女林中ニテ創見セル Randia scandens Dec. ニ於ケル著甚ナル攀援裝置ヲ記述シ之ヲ他ノ同屬植物ニ於ケルモノト比較セリ、該器官ハ短枝（クルトリーブ）ノ第一節腋芽ノ變態ニ成ル棘ヲ主體トセルモノニシテ該短枝及棘ハ特異ノ生長方向ヲ現シ相俟テ有力ナル釣鉤裝置ヲ形成セリ。

二、瓜哇産ミルメコヂアニ關スル研究

ミルメコヂア及ヒドノフィツムハ馬來群島ノ植物中其形

シタリ。

(甲)　天然群落

(第一)、水生植物群界　(1)濕潤植物群落(蘚苔類)　(2)溜水群落(プランクトン)

(第二)、中性植物群界　(3)混交林　(4)灌木林　(5)草原

(第三)、乾性植物群界　(6)黒松林　(7)燒野　(8)海岸砂地群落　(9)海岸岩生群落　(10)樹上植物

(乙)　二次的植物群落

(12)人工林　(13)麥畑　(14)甘藷畑

群落ノ形成及ビ變換――火山作用ニヨリ大島地體ノ漸次形成セラルヽヤ當時ノ外界ノ狀態ノ下ニ先ヅ初成群落ヲ生ジ次ニ漸移群落ヲナシ最後ニ後成群落ヲナシタルナルベシ、然ラバ其等群落變換ノ有樣ハ如何ナリシカハ只現時ノ狀態ヲ以テ之ヲ推察スルニ止ルノミ。

大島ハ有史以來暫々著シキ活働ヲナシタルガ千百十二年東北山腹ヨリ外輪山壁ニカケテノ大(2)爆裂後北方面幷ニ西南方面ノ一部ニハ溶岩流出シ又ハ噴出物ヲ堆積セシメ大ナル裸地ヲナシタリ、然レドモ之等ノ他ハ皆多少天然林ヲ以テ被ル。先ツ此裸地ニ生ルモノハ下等藻類、地衣類、細菌類ナル可ク次デ蘚類ヲ生ジ風化ノ漸ク進ムニ從ヒテハ羊齒類ヲ生ゼズシテ渉草及ビ虎杖ヲ生ジ之等ノ間ニやしやぶし、はこねうつぎ等ノ强キ陽性灌木叢ヲナシ以テ其漸移群落トナルガ如シ此後尚土地ノ分解進渉スレバ之等ノ保護下ニ他ノ陰樹ノ稚樹發生シテ濶葉樹林ヲ形成スルニ到ル、而海岸ノ特別ナル狀況ノ地ニハ黒松林ヲナスナリ、天然林暫々伐採サレ殊ニ開墾セラレ日光ノ入ル時ハはこねだけノ浸入シ來リテ繁茂シ竹林ト化シ去ラン、有用主林木輕度ノ伐採ヲ被ル時ハ其稚樹ハ他ノ雜木ノ下ニ保護サレ漸次固有ノ林相ヲ恢復シテしひ、樟科、いぬまきノ森林トナルベク現今ノ混交林ハ此時代ニアルモノヽ如シ、然レドモ今ノ時代ニ雜木伐採サレテ悉ク薪炭トナル時ハ又竹林トナルベシ

オホバコ (Plantago major, var. asiatica, Decne)

(丙)　日本植物帶上大島區系ノ位置。

大島植物區系ノ内ニハ次ノ如キ要素ヲ含ムヲ見ル。

くろまつ、いぬまき、やぶにくけい、しゃだち、たぶのき、あかめがしは、すだじひ、まてばしひ、とべら、さんごじゅ等ノ主林木

おほばぐみ、ゆづりは、やなぎいちご、しばやなぎ、ひさかき、まさき、もくれいし、かじいちご、かくれみの、はこねうつぎ等の亞喬木乃至灌木

おほばねのもとさう、こもちしだ、ほらしのぶ、はまほらしのぶ、へらしだ、ふもとしだ等ノ羊齒類

よしたけ、おほばうまのすゞくさ、らせいたさう、ひめうづ、あしたば、ぼたんぼうふう、つはぶき、わだん、いそぎく、こけりんだう、そなれむぐら、はまおもと、たいとごめ等ノ草本類

之等ハ各皆南方ノ分子ニシテ又氣候等ヨリ見ルモ之ヲ内地植物帶ニ比スレバ大島區系ノ位置ハ當ニ暖帶北部區城ニ入ルモノナリ。

大島植物區系成立ノ由來ニ就テハ只此ニ想像ヲ逞フスルニ過ギズ、地體ノ形成サレシ初ハ多分鮮新世以來ノコトニシテ當時現今ノ伊豆半島地方幷ニ七島地方ニテハ火山作用盛ニシテ其結果海底火山時代ヨリ漸次隆起シテ水面上ニ現レ現今ヨリハ皆高度山腹裾野ノ發達擴大ニシテ昔時ハ伊豆地方ヨリ七島地方ニ連續セシナラン。サレバ大島植物ノ一部分ハ此時代ニ分布シ來リシモノモアルベク其ヨリ本土ト斷絶シタル後モ水、風、動物等ノ力ニヨリ分布シ來レルモノモ亦多カル可シ、殊ニ海濱植物ノ多クハ潮流ニヨリシナル可ク内方ノモノモ此地方ニ著シキ北風ノ便ニヨリシモアラン。

第二節　植物群落

大島ニ於テハ次ノ數群落ヲ認メ得ルガ如シ、然シテ其各群落ノ記載及ビ立地トノ關係ノ如キハ其一斑ヲ前節等ニ記

キリシマツヽヂ (Rhododendron indicum, var. obtusum, Max)

(五十二) 紫金牛科 (Myrsinaceæ)

ヤブカウジ (Ardisia japonica, Bl.) マンリヤウ (A. crispa, DC)

(五十三) 蔦墩果科 (Styracaceæ)

エゴノキ (Styrax japonicus, S. et Z.)

(五十四) 木犀科 (Oleraceæ)

オホバイボタ (Ligustrum medium, F. S.) イボタ (L. ibota, Sieb)

(五十五) 夾竹桃科 (Apocynaceæ)

テイカカヅラ (Trachelospermum divaricatum, Schm)

(五十六) 龍膽科 (Gentianaceae)

ヨケリンダウ (Gentiana squarrosa, R. Br)

(五十七) 紫草科 (Borraginaceæ)

タビラコ (Trigonotis pedunculare, Bth)

(五十八) 旋花科 (Convoluvulaceæ)

ハマヒルガホ (Calystegia soldanella, R. Br.)

(五十九) 馬鞭草科 (Verbenaceæ)

ハマガウ (Vitex trifoliolata, L.) ムラサキシキブ (Callicarpa japonica, Thg.)

(六十) 脣形花科 (Labiatæ)

オドリコサウ (Lamium album, L)

(六十一) 車前科 (Plantaginaceæ)

(四十四) 胡瓜科 (Cucurbitaceæ)

アマチャヅル (Gymnostemma pedata, Bl)

(四十五) 繖形科 (Umbelliferæ)

ハマボウフウ (Phellopterus littoralis, Benth) アシタバ (Angelica utilis, Mak.) ナガミラヽ (Osmorhyza aristata, Mak. et Yabe) ボダンボウフウ (Peucedanum japonicum, Thg) ウマノミツバ (Sanicula europaea, var. elata, Mak.)

(四十六) 五加科 (Araliaceæ)

タラノキ (Aralia chinensis, L) カクレミノ (Gilibertia trifida, Mak.) キヅタ (Hedera Helix, L)

(四十七) 山茱萸科 (Cornaceæ)

ミヅキ (Cornus macrophylla, Wall) アヲキ (Aucuba japonica, Thg) ハナイカダ (Helwingia japonica, Dietr)

(四十八) 忍冬科 (Caprifoliaceæ)

ニハトコ (Sambucus racemosa, var. Sieboldiana, Miq) ガマヅミ (Viburnum dilatatum, Thg) サンゴジュ (V. odoratissimum, Ker) スイカヅラ (Lonicera japonica, Thg) ハコネウツギ (Diervilla coraeensis, DC)

(四十九) 茜草科 (Rubiaceæ)

ソナレムグラ (Oldenlandia paniculata, L) ヤイトムグラ (Galium aparine, L) ヨツバムグラ (G. gracile, Bge)

(五十) 菊　科 (Compositæ)

ヨメナ (Lampsana apogonoides, Mx) オニタビラコ (Crepis japonica, Bth) ワダン (Crepis lanceolata, var. platyphylla, Mak) ツワブキ (Ligularia Tussilaginea, Mak) イソギク (Chrysanthemum marginatum, Miq) ハマニガナ (Lactuca repens, Bth) ノアザミ (Cirsium japonicum, DC.) ヨモギ (Artemisia vulgaris, L) タンポヽ (Taraxacum officinale, L) フキ (Petasites japonica, Miq) ノゲシ (Sonchus oleraceus, L.)

(五十一) 石楠科 (Ericaceæ)

○伊豆大島植物地理略　小泉

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(卅六) 衛矛科 (Celastraceæ)

マサキ (Evonymus japonica, Thg) モクレイシ (Otherodendron japonicum, Mak)

(卅七) 鼠李科 (Rhamnaceæ)

クマヤナギ (Berchemia racemosa, S. et Z.)

(卅八) 葡萄科 (Vitaceæ)

ノブダウ (Ampelopsis heterophylla, S. et Z.)

(卅九) 無患樹科 (Sapindaceæ)

アサヒカヾデ (Acer pictum, var. dissectum, Wesml)

(四十) 豆　科 (Leguminosæ)

ジャケツイバラ (Caesalpinia seriaria, Roxb) ハマエンドウ (Lathyrus maritimus, Bigel)

(四十一) 薔薇科 (Rosaceæ)

オホヤマザクラ (Prunus donarium, var. speciosa, Koidz) キヂムシロ (Potentilla fragarioides, L.) カヂイチゴ (Rubus trifidus, Thg) モミヂイチゴ (R. palmatus, Thg) ヤルバカヂイチゴ (R. Ohsimensis, Koidz) ノイバラ (Rosa multiflora, Thg) コゞメウツギ (Stephanandra incisa, Zabel) マルバノシャリンバイ (Rhaphiolepis umbellata, var. Mertensii, Mak.) クヽヒイチゴ (Duchesnea indica, Focke) オクヽヒイチゴ (Potentilla Kleiniana, W. et Arn

(四十二) 景天科 (Crassulaceæ)

タイトゴメ (Sedum oryzifolium, Mak.)

(四十三) 虎耳草科 (Saxifragseæ)

ダイモンジサウ (Saxifraga Cortusaefolia, S. Z.) ユキノシタ (S. sarmentosa, L) アヂサヰ (Hydrangea Hortensia, DC) ウツギ (Deutzia scabra, var. crenata, Mak.) タマアヂサヰ (Hydrangea involucrata, Sieb)

シキミ Illicium anisatum, L.) ヤマグルマ (Trochodendron Aralioides, S. et Z)

(六) 罌粟科 (Papaveraceæ)

ハマキケマン (Corydalis pallida, var. platycarpa, Mx.) ヤブケマン (C. incisa, Pers)

(七) 十字花科 (Cruciferæ)

ナヅナ (Capsella Bursa-pastoris, L) タネツケバナ (Cardamine hirsuta, L.) イヌガラシ (Nasturtium indicum, DC.) ハタザホ (Arabis perfoliata, Lam)

(八) 小蘗科 (Berberidaceæ)

トキハアケビ (Stauntonia hexaphylla, Decne)

(九) 菫菜科 (Violaceæ)

タチツボスミレ (Viola sylvatica, var. japonica, Mak.)

(十) 海桐科 (Pittosporaceæ)

トベラ (Pittosporum Tobira, Ait)

(十一) 石竹科 (Caryophyllaceæ)

フジナデシコ (Dianthus japonicus, Thg) ハコベ (Stellaria media, Cyr) ノミノフスマ (S. uliginosa, Murr) シロバナマンテマ (Silene gallica, L.)

(十二) 厚皮香科 (Ternstroemiaceæ)

ヒサカキ (Eurya japonica, Thg) ヤマツバキ (Thea japonica, Nois. var. spontanea, Mak) キブチ (Stachyurus præcox, S. et Z)

(十三) 冬青科 (Aquifoliaceæ)

イヌツゲ (Ilex crenata, Thg.)

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rgii, S. et Z.)

(十九) 胡頽子科 (Elaeagnaceæ)

オホバグミ (Elaeagnus macrophyllus, Thg.)

(二十) 瑞香科 (Tymelaeaceæ)

オニシバリ (Daphne pseudomezeleum, Gr.)

(廿一) 大戟科 (Euphorbiaceæ)

ナツトウダイ (Euphorbia Sieboldiana, Morr. et Decne.) ユヅリハ (Daphniphyllum macropodum, Miq) アカメガシハ (Mallotus japonicus, Muell)

(廿二) 尋麻科 (Urticaceæ)

ヤナギイチゴ (Debregeasia edulis, Wedd.) ヒメイタビ (Ficus Thunbergii, Mx.) ラセイタサラ (Boehmeria biloba, Wedd.)

(廿三) 桑　科 (Moraceæ)

エノキ (Celtis sinensis, Pers)

(廿四) 殼斗科 (Cupuliferæ)

スダジヒ (Pasania Sieboldii, Mak.) マテバシヒ (P. edulis, Mak.) カシハ (Quercus dentata, Thg.) ヤシャブシ (Alnus Sieboldiana, Matsum)

(廿五) 楊柳科 (Salicaceæ)

シバヤナギ (Salix japonica, Thg.)

(廿六) 毛莨科 (Ranunculaceæ)

センニンサウ (Clematis paniculata, Thg.) アキカラマツ (Thalictrum minus, L.) ヒメウヅ (Isopyrum adoxoides, DC.)

(廿七) 木蘭科 (Magnoliaceæ)

ハマオモト (Crinum asiaticum, L.) スイセン (Narcissus Tazetta, L)

(十) 百合科 (Liliaceae)

ノビル (Allium nipponicum, Fr. et Sav.) サルトリイバラ (Smilax china, L.) バイモ (Fritillaria verticillata, var. Thunbergii, Bak.) アマナ (Tulipa edulis, Bak.)

(十一) 天南星科 (Araceae)

ウラシマソウ (Arisaema Thunbergii, Bl.)

(十二) 莎草科 (Cyperaceae)

カンスゲ (Carex Morrowii, Boot) ヤマクロスゲ (C. flavocuspis, Fr. et Sav.) アヲスゲ (C. breviculmis, var. Royleana, Kuek) ヨウバウシバ (C. pumila, Thg.)

(十三) 禾本科 (Gramineæ)

カモノハシ (Ischaemum Sieboldii, Miq.) ヨシタケ (Arundo donax, L.) ハコネダケ (Arundinaria chino, Mak.) ネマガリダケ (Sasa paniculata, Mak. et Shib.)

(十五) 蓼 科 (Polygonaceæ)

イタドリ (Polygonum Roynoutria, Mak.) ギシギシ (Rumex crispus, var. japonicus, Mak.)

(十六) 馬兜鈴科 (Aristrochiaceæ)

オホバウマノスヾクサ (Aristrochia Kaempferi, Willd)

(十七) 胡椒科 (Piperaceæ)

フウトウカヅラ (Piper Futo-Kadzura, S. et Z.)

(十八) 樟 科 (Lauraceæ)

ヤブニクケイ (Cinnamomum pedunculatum, Nees) シロダモ (Tetradenia glauca, Matsum.) イヌグス (Machilus Thunbe-

行發日十二月七年五十四治明

(O. chinensis, Kuhn.) フモトシダ (Microlepia marginalis, Hance.) イラシダ (Diplazium lanceum, Presl.) ノキシノブ (Polypodium lineare, Thg.) ミツデウラボシ (P. hastatum, Thg.) ワラビ (Pteridium aquilinum, Kuhn.) イヌガンソク (Struthiopteris germanica, Willd.) シノブカグマ (Brechnum nipponicum, Mak.) クジャクシダ (Adiantum pedatum, L.) ヒトツバ (Niphobolus Lingua, Sw.) ヤマツタラン (Drymoglossum carnosum, Hk.) ユウモウシダ (Polystichum tripteron, Sw.)

(五) 石松科 (Lycopodiaceæ)

タウゲシバ (Lycopodium serratum, var. javanicum, Mak.)

(六) 公孫樹科 (Ginkgoaceæ)

イテフ (Ginkgo biloba, L.)

(七) 松柏科 (Coniferæ)

クロマツ (Pinus Thunbergii, Parl.) イヌマキ (Podocarpus macrophylla, Don) イヌガヤ (Cephalotaxus drupocea, S. et Z.) スギ (Cryptomeria japonica, Don.) ヒノキ (Chamaecyparis obtusa, S, et Z) サワラ (C. pisifera, Endl.) ビャクシン (Juniperus chinensis, L.) ハヒビャクシン (J. Chinensis, var. procumbens, Endl,)

(八) 蘭　科 (Orchidaceæ)

サイハイラン (Cremastra appendiculata, Mak.) セキコク (Dendrobium moniliforme, Sw.) フウラン (Angraecum falcatum, Lindl.) エビネ (Calanthe discolor, Lindl.) クマガイサウ (Cypripedium japonicum, Thg.) ビロウドラン (Goodyera velutina, Mx.) カモメラン (Gymnadenium cyclochila, Kors.)

(九) 鳶尾科 (Iridaceæ)

ヒアフギ (Belamcanda punctata, Moench)

(十) 石蒜科 (Amaryllidaceæ)

植物學雜誌第二十六卷　第三百七號　明治四十五年七月二十日

伊豆大島植物地理畧(承前)

小泉源一

Koidzumi, G.:—Phytogeography of the volcanic island of Oshima. Prov Izu, Japan.

(乙)　植物目錄

此目錄ハ自己採集ノ他ニ白井教授ノ伊豆七島採集目錄及ビ大久保三郎氏ノ伊豆巡島記ヲ參照シタレドモ四季ヲ通ジテ十分探索セシニ非ルヲ以テ遺漏甚ダ多カラン

(一)　苔蕨科(Hymenophyllaceæ)

マルバホラゴケ(Trichomanes parvulum, Poir)

(二)　薇　科(Osmundaceæ)

ゼンマイ(Osmunda regalis, var. japonica, Miqde)

(三)　瓶爾小草科(Ophioglossaceæ)

フユノハナワラビ(Botrychium ternatum, Sw.)

(四)　水龍骨科(Polypodiaceæ)

オホバノキノモトサウ(Pteris cretica, L.)コモチシダ(Woodwardia radicans, Sw.)オニヤブソテツ(Polystichum falcatum, var. genuina, Mak.)ベニシダ(Nephrodium erythrosorum, Hk.)ヤブシダ(N. totta, Diels)キノデ(Polystichum aculeatum, Roth.)イタチシダ(P. varium, Pr.)ホラシノブ(Odontosoria chinensis, var. tenuifolium, Mak.)ハマホラシノブ

ノ植物ニハアラズシテ唯廣義ニ於テ公孫樹ト同ジク裸子類ニ屬スルノミ左レバ公孫樹ノ精蟲ト同ジク池野成一郎ノ此ガ發見アラザリシ以前ハ世人ハ夢ニモ其事實ヲ知ラザリシナリ蘇鐵ハ東京ノ如ク寒地ニ於テハ稀ニ花ヲ著クルコトアレドモ其結實ニ至ルマデノ材料ヲ得ンコト不可能ナレバ發見者ハ鹿兒島ニ於テ之ガ材料ヲ蒐集シテ其研究ヲ遂行セリ是ヨリ先蘇鐵科ノ或ル種類ニ就テ其生殖機關ノ發育ニ關スル精密ナル研究ハ千八百七十七年ト千八百七十九年ニ於テワーミング氏千八百八十二年ト千八百八十八年ニ於テトロイブ氏等ノ諸大家ニ依リテ吾人ノ知識ヲ增進セル所多シトスルニモ拘ラズ諸氏ノ研究中ニハ精蟲發生ノ事實ヲ洩シテ後進ナル池野成一郎ノ研究ニ依テ精蟲ノ發生ヲ確實ニ證明シ尙進ミテ其精蟲ガ卵內ニ進入シテ其核ト融合スルノ事實ヲ闡明スルニ至リシハ我國ノ誇リトスル所ナラザルベカラズ（中略）

茲ニ米國ニ於テ「ザミヤ」ト稱スル一種ノ蘇鐵科植物ヲ產スルヲ以テウエツバート云フ人其生殖機關ノ研究ニ從事セシガ池野成一郎ニ後ルヽコト一年ニシテ其精蟲ノ發見ヲ公表セルハ奇ト謂フベシ植物學勃興ノ當時各自ノ著眼スル所同一ノ方針ナリシニヤ前後三年ノ間ニ恰モ言ヒ合セタラン如ク三種ノ裸子植物ヨリ精蟲ノ發見ヲ促セシモノナルベシ此ノ三幅對中其二者ハ本邦人ニシテ發見ハ恰モ姉妹ノ關係アリテ其功其勞ハ互ニ兄タリ難ク弟タリ難キモノアリ

今日我ガ植物學界ニ於テ苟モ一事ヲ研究スル每ニ多少ノ新事實ヲ發見シ乃至ハ先輩ノ研究中ニ誤謬ヲ指摘シテ之ガ修正ヲ試ムル等ノ如キハ比々トシテ之アリト雖此二人者ノ如ク顯花植物中ニ精蟲ノ發見アリシハ植物學史上一新紀元ヲ劃セルモノト謂フベク千九百三年以降ノ植物教科中苟モ公孫樹ト蘇鐵ト相遠カラザル植物科名ノ下ニ平瀨、池野好一對ノ日本人名ヲ揭グルニ至レリ

◎東京植物學會錄事

○退　會

田中三郎

○轉　居

東京市神田區錦町三丁目二十四番地菊水館　千葉芳雄

東京市小石川區小日向臺町三丁目四十一番地　和田八重造

長野縣諏訪郡上諏訪町片羽　千葉光茂

岐阜縣警察部衞生課　南部洋

大分縣佐伯中學校　出納國滿

ル所斷カラザルハ大ニ我國ノ以テ誇リトスル所ナリ

二、農科大學教授理學博士池野成一郎ハ明治二十八年公孫樹ノ近類タル蘇鐵ノ生殖機關ノ發育及ビ其結實作用ノ研究ニ從事シ精密ナル觀察ヲ遂行シテ公孫樹ト等シク蘇鐵ノ雄花ニ精蟲ヲ發生セル事實ヲ發見セリ其研究ノ狀況及ビ結果ハ當時內外ノ諸雜誌ニ登載セリト雖精蟲發見ノ公表ハ明治二十九年十一月發刊ノ植物學雜誌ニシテ是實ニ平瀨作五郎ガ公孫樹ノ精蟲發見ノ發表後一箇月ニ在リ「蘇鐵ノ精蟲」ト題セル邦文ノ豫報是ナリ、是ヨリ先十月發刊ノ同雜誌ニ

Notes préliminaire sur la Formation de la Cellule de canal chez le Cycas revoluta.

ト題セル論文ノ揭載アリテ蘇鐵ノ雌花ニ於ケル研究ヲ報導セリ次テ千八百九十六年發刊ノ Botanisches Centralblatt ニ於テハ

Vorläufige Mittheilung ueber die Canalzellbildung bei Cycas revoluta ト題スル論文

千八百九十七年發刊ノ同雜誌ニ於テハ

Vorläufige Mittheilung ueber die Spermatozoiden bei Cycas revoluta

千八百九十八年發刊ノ Botanische Zeitung ニ於テハ

Zur Kenntniss des sog. centrosomähnlichen Körpers in Pollenschlauch bei Cycadeen ト題スル論文等ヲ登セ又同年發刊ノ Jahrbücher für Wissenschaftliche Botanik ト同年發刊ノ理科大學紀要第十二卷ニ於テハ

Untersuchungen über die Entwicklung der Geschlechtsorgane und den Vorgang der Befruchtung bei Cycas revoluta. ト題セル詳論ヲ揭ゲテ蘇鐵ニ關スル生殖全般ノ研究ヲ完ウセリ

抑モ蘇鐵ハ一種異樣ノ植物ニシテ公孫樹ト異ナリ其種類モ多ク熱帶亞細亞ポリネシヤ、濠州等ニ產スルモノナルガ幸ニ本邦溫暖ノ地ニ之ヲ產シ二百年以前ニハ日本棕櫚ノ名ヲ以テ歐洲人ニ知ラレ百五十年前既ニ英國ニ輸入サレタリ當時棕櫚ノ類ト見做サレタルモ千八百三十六年頃ニ至リテ蘇鐵科ノ所屬ト確定セリ此ノ類モ化石ノ研究ニ據レバ其祖先ハ遠ク「ペルミアン」ノ地層ニ遡テ起レルガ如シ

元來蘇鐵ノ種類タルヤ公孫樹ニ近似スト云フト雖モ同科

雜報　○平瀨池野兩氏授賞ニ關スル審查要旨

層ノ石炭紀ニ及ベル太古ノ遺物ナルガ如シ今其植物學史ヲ按ズルニ百九十九年前獨逸人ケンプフェル氏ニ依リテ Ginkgo ト命名セラレ其日本産ナルコトヲ初メテ紹介セラレテ以來千八百三十六年頃ヨリ其植物界ニ於ケル位置ハ（カヤ）榧科ト確定シ其後千八百八十年頃ハ狹義榧科ナレトモ廣義ニハ之ヲ松柏科ニ編入セラレシガ平瀨作五郎ガ研究ノ結果以來松柏科ハ勿論榧科ヨリ分離シテ特ニ公孫樹科ヲ植物界ニ新設スルノ變更ヲ來タスノ止ムナキニ至レリ

蓋シ植物ノ精蟲タルヤ千八百二十二年以來苔類、藻類其他花ヲ有セザル隱花植物ト稱スル下等ノ種類ニ於テ之ガ發見アリシモ最初ハ單ニ動物「インフーゾリヤ」ナリトノ見解ニノミ止リシガ漸次學術ノ進歩スルニ隨ヒ千八百五十一年頃ニ至リテハ下等植物ハ動物ト等シク精蟲ヲ具有シテ生殖作用ヲ營ム者ナリトノ確定說ニ到著セリト雖公孫樹ノ如ク天ニ聳ユル松柏科所屬ノ顯花植物類ニ精蟲ノ存在セントハ夢ニモ之ヲ知ラザル所ナリキ然レ𪜈獨逸ノ植物學大家ホーフマイステル、プリングスハイム兩氏ノ如キハ既ニ五十年前諸種ノ植物ニ於ケル生殖機關ノ比較研究ニ依リテ松柏類ニモ隱花植物ニ等シキ生殖作用ノアルナラントノ推測ヲナシタレドモ此ハ單ニ比較上ヨリノ推測假定ニ止マリテ未ダ實際ニ之ガ證明ヲ成シタルモノニアラズ又近代ノ大家ストラスブルガー氏ノ如キハ大ニ進歩セル說ヲ持シテ公孫樹ニ就テ精査セル所アリシモ此キ如キ驗著ナル精蟲發生ノ事項ニ至リテハ之ヲ洩ラセリ

夫レ平瀨作五郎ハ未ダ歐米ノ學府ニ出入シタルコトナキ一個ノ圖書家ニシテ我大學ノ實驗室ニ於テ他ノ指導ヲモ仰ガズ僅カニ職務ノ餘暇ヲ利用シテ此ノ如キ研究ニ從事シテ歐米ノ大家ガ未ダ曾テ收メザル效果ヲ得タルハ主トシテ其顯微鏡視察上、手術ノ巧妙ナルト精力絶倫ナルトニ由レルノミナラズ刻苦精勵四年ノ星霜孜々トシテ一問題ノ研究ヲ繼續シタルニ因レルモノナリ

斯クテ公孫樹精蟲ノ發見アリテ以來歐米ノ學界ニ於テハ平瀨作五郎ノ名嘖々トシテ喧傳セラレ千九百三年以降ノ植物學教科中公孫樹ニ關スル生殖事項ハ同人ノ名ヲ擧ゲテ其圖ヲ採用セザルハナキナリ且ツ此ノ發見ハ啻ニ精蟲ノ發見トシテ學術界ノ耳目ヲ聳動セシノミニ止ラズ之ニ因テ植物ノ分類學、形態學及生理學上ノ不備ヲ完ウシタ

クル餘暇ヲ以テ植物ノ解剖實驗ニ就テ十分其素地ヲ養フ所アリ明治二十六年七月公孫樹ノ胎生ニ就テ實驗ニ著手セリ其研究ノ動機ヲ考フルニ歐洲植物學大家二三ノ實驗說ニ「十月ニ至リ成熟シテ落チタル銀杏ヲ驗シタルニ胚ノ形跡ヲモ認メズ意ラク是レ受胎セザリシモノナルベシト然ルニ兩三月ヲ經テ貯藏セシモノヲ再驗スレバ悉ク成育セル胚ヲ收メタリ」トアリ又「秋期ニ及ビ母樹ヲ辭シテ後受胎シ其冬期中ニ胚發育ス」トアルニ疑問ヲ起セシニ因レルガ如シ是ニ於テカ著著研究ノ步ヲ進メ明治二十七年發行ノ植物學雜誌ニ於テ

Notes on the Attraction-spheres in the Pollencells of Ginkgo biloba.

ト云フ論文ヲ揭載シテ公孫樹ノ雄花ナル花粉細胞內ニ異狀アルコトヲ報告セリ次テ翌年六月發行ノ同雜誌ニ於テ

Etudes sur le Ginkgo biloba.

ト題スル豫報ヲ揭ゲ次テ理科大學紀要八卷(P.307—320)

Etudes sur la fécondation et l'émbryogénie du Ginkgo biloba,

ト題セル詳論ヲ載セテ公孫樹ニ於ケル雌花ノ卵球ニ變動アルコトヲ報ゼシガ遂ニ其研究愈々精密ニ亙ルノ結果翌明治二十九年四月開會ノ植物學會總會ニ於テ公孫樹ノ花粉ヨリ二箇ノ精蟲ヲ發生セル事實ヲ發表シ同年十月發行ノ植物學雜誌ニ「公孫樹ノ精蟲ニ就テ」ト云フ論文ヲ揭ゲテ其精蟲ノ形狀ハ卵圓形ニシテ長サ八十二「ミュー」幅四十九「ミュー」アリ頭部渦線狀ヲ成シテ玆ニ顫毛ヲ列生シ花粉管ノ一端ヨリ飛出シテ胚珠心ノ內面ニ溜レル液汁內ヲ自轉シナガラ迅速ニ遊走セル狀ヲ目擊セルコトヲ論ゼリ其獨乙文ハ千八百九十七年發行ノ Botanisches Centralblatt (P. 33—35) ニ在リ題シテ

Untersuchungen iber das Verhalten des Pollens von Ginkgo biloba.

ト云フ又其詳論ハ千八百九十八年出版ノ理科大學紀要(P. 103—149)ニ登載セリ題シテ

Etudes sur la Fécondation et l'Embryogénie du Ginkgo biloba.

ト云フ

抑モ公孫樹ハ日本及支那ノ特有產ニシテ其祖先ハ遠ク地

ヨレバコノ菌ハ *Meliola* 屬ノ菌絲ニ寄生的ニ生ズルモノノ由ニテ極メテ珍シキモノナリト云フ斑點ハ黑色楕圓形ニテ子嚢殻ハ黑色卵形ニテ外觀網狀ナリ子嚢ニ卵形球形八個ノ胞子ヲ含有ス胞子ハ楕圓形二細胞無色ナリ尙ホ「ピクニヂア」ヲ有ス「ピクニヂア」ハ暗色單細胞ナリ而シテ子嚢ノ周圍ニハ黑色ノ刺毛ヲ總生ス

右二菌ノ記載ハ近刊ノ *Annales Mycologici* ニ發表サルト云フ

Kusanoa Japonica P. Henn et Shirai

かしノ裏黑點病菌 (*Cocoidea quercicola* P. Henn et Shir. ニ一種ノ寄生菌アリ *Kusanoa Japonica* P. Henn et Shir. ト云フ肉眼的黑色ヲ呈セルかしノ裏黑點病菌ガ暗赤色ニ變ジ且ツ多少收縮シタルガ如キ觀ヲ呈ス子座ハ平圓盤狀ニテ僞肉質又ハ稍木栓質ニテ赤褐色ヲ呈ス表面粗糙ナリコレヲ切斷シテ顯微鏡下ニ照ストキハ內部ハ二層ヨリ成ル表皮ヨリ稍內部ニ達セル所ニ子嚢ヲ規則正シク一列ニ埋沒スコノ子嚢ノ有ル部分ヨリ上部ハ多少其組織大ニシテ不規則ナリ其ヨリ下部ハ柄狀部ニ至ルマデ柔組織樣ナリ子嚢ハ楕圓形、卵形又ハ球形ニシテ外皮稍厚ク中ニ八個ノ胞子ヲ含有ス二八乃至三五 μ ノ長サ二〇－三〇 μ ノ幅アリ胞子ハ卵形楕圓形ニシテ三個ノ橫隔膜ト二個ノ縱隔膜トアリ淡褐色ヲ帶ブ初メハ無色ニシテ內容顆粒狀ヲ呈シ且ツ細球數個ヲ有ス長サ二〇乃至二五 μ 幅一〇－一五 μ アリ

武藏東京美濃川上村ニ分布ス

コノ菌ガ密生狀態ヲ明ニスルヲ得ズト雖モかしノ裏黑點病菌ノ子嚢殻ヲ侵シ其部ニ子嚢ヲ生ジ且ツ其附近ノ組織ヲ破崩シ新ニ *Kusanoa japonica* ガ組織ヲ形成スルモノナランカ故ニ其組織ガ二層ヨリ成立ツモノナルカ而シテ其子座ガ全部赤褐色ヲ呈スルニ至リテハ其因ヲ明ニセズ其研究ヲ後日ニ待ツ

◎雜報

○平瀨池野兩氏授賞ニ關スル審査要旨

平瀨池野兩氏ガ今回帝國學士院ヨリ恩賜賞ヲ授與セラレタルコトハ本誌前號ニ揭載セシガ四月十七日官報ニ右授賞ニ關スル審査要旨揭載セラレアルヲ以テ左ニ之ヲ轉載スベシ、插圖ハ右恩賜賞ノ賞牌ナリ、賞牌ノ原形ハ直徑二寸五分

平瀨作五郎及理學博士池野成一郎授賞ニ關スル審査要旨

一、平瀨作五郎ハ圖畫ヲ專攻セル者ナルカ明治二十一年理科大學雇トナリ植物ニ關スル圖畫ヲ製作シテ敎授ヲ助

少ナカラズ、然レドモ栽培上利用ノ目的ヲ以テ吾人ハ常ニ無核結果性品種ノ探索ヲ劣ル可カラズ、予ノ知リ得タル所ニヨレバ本邦ニ無核ノ文旦少クモ十品以上アリ、九年母、八代、小蜜柑、日向夏蜜柑、甎柑、神代橘、宇樹橘等皆無核ノ木又芽變枝條ヲ具フルヲ發見セリ。之等ハ直接取リテ以テ栽植ニハ値セザル品種ナルモ貴重ナル「無核形質」ハ之ヲ雜種學上利ス可キモノナルコト細言ヲ要セザルナリ。

(二)早熟及晩熟種ノ育成。　果物ノ熟期ハ最モ有效ナル經濟的效果ヲ栽培學上ニ及ボスモノ也。彼ノ溫州ノ如キ十月ヨリ既ニ東京市場ニ現ハルヽハ神奈川縣柑橘業ノ功ニシテ早生溫州ノ如キコノ點ニ顧慮スル値ヲ起サシム。然ルニ溫州ニ晩熟品種ヲ缺クガ故ニ最モ周約ナル貯藏法ヲ行フモ五月ヲ以テ最晩限トナスノ他ナシ、若シ溫州ノ形質ヲ失ハズシテ日向夏蜜柑ノ如キ晩熟性ヲ附與スル事ヲ得バ其國益ヲ加フル事少ナカラザル可シ。たちばな、こうじ類ノ早熟性モ亦コノ點ニ於テ其意義ヲ發見スルニ難カラザル可シ。

(三)堪寒品種ノ育成。　本邦產地ノ霜害アリシ例少ナキヲ以テ堪寒性ヲ柑橘ニ附與スルコトハ大利ナキガ如シ。病蟲害ニ堪フル形質ノ如キモ甚シク重要ヲ感ゼザレドモ、時ニ慘害ヲ逞クスル瘡痂病害（*Cladosporium Citri* Mass ノ寄生ニヨル）ノ如キハ品種的ニ被害ノ程度ヲ異スルニ著目シ、或ハ溫州蜜柑ヨリ本病ヲ除ク事ヲ得バ輸出上非常ノ效果ヲ呈スベシト觀ズ。

之ヲ要スルニ柑橘果樹ノ利用及改良ハ植物學上幷ニ農學上極メテ興味アル問題タルノミナラズ直チニ以テ國家ヲ益スルノ資トナルガ故ニ今後吾人ノ研究ニ向ッテ學界諸賢ノ助力ヲ仰グ事切也。一言希望ヲ附記ス

○菌類囈語　其一

原　攝祐

Lachnum Japonicum Yyd. n. sp.

コノ菌ハからむしノ莖上ニ寄生スルモノニシテ結實體ハ極メテ短キ柄ヲ以テ寄主ニ附着シ胚狀ヲナシ毛ヲ覆ムル乾燥シタルトキハ收縮シテ內面ニ卷縮ス水ヲ吸收スレバ開ク子實層ハ稍紅色後退色ス子囊ハ圓筒狀八個ノ胞子アリ胞子ハ一列又ハ二列ニ幷列シテ長楕圓形又ハ長圓筒形ニシテ眞直又ハ少シク曲ル無色透明絲狀體アリコノ菌ハ本年一月美濃國川上村ニテ採集スズイドウ氏ハ前記ノ種名ヲ命ゼラレタリ

Dimenium japonicum Yyd. et Hara n. sp.

コノ菌ハ東京農科大學植物園內ニ栽培セラルヽやしやだけニ年々發生シテ大害ヲナシツヽアリ予ハ先年ズイドウ氏ノ依賴ニヨリ日本產竹類ノ寄生菌ヲ送付セシニ該菌ヲ新種ト認メ右ノ學名ヲ附シタル旨通報アリタリ氏ノ說ニ

柑橘類ニ於ケル經濟的栽培品種ノ撰擇ハ其分布學上ノ適否ヲ考察スルヲ主眼トナスノ外最モ要件トスル所ハ其種類學上ノ形質ノ良否ニアル事勿論也。今日本邦柑橘業ノ他果樹園藝業ニ對シ最優勢ヲ占ムルモノ本ヨリ本邦氣候ノ本植物ニ利スル多キアルニアレドモ一ハ一良品種溫州蜜柑アルガ爲ニシテ、本邦ノミナラズ北米ノ最大産地ノ一タルフロリダノ柑橘業ヲ救ヒシモノ實ニコノ Satsuma (Orange ニ外ナラザル也。凡ソ溫州蜜柑ハ單ニ本邦最適タル橘柑類中ノ一品タルニ止マラズ其無核、强健、大果、良味、豐産、速育、堪久性(果ノ)等諸多ノ良點多ク缺點少ナキ事ニ於テ比ナシ、其今日ノ盛況ヲ呈スルニ至リシハ單ニ苗木業者ノ達見ニヨレルノミナラズ實地栽培家ノ識見又大ニ賞讃スルニ値ス。實ニ本柑ノミヲ以テスルモ我國ハ每年五百萬圓ヲ利シツヽアル也。他ノ柑橘類ハ小蜜柑ノ豐産、甘味ニ於テ第一ニ位スルモ有核、小果ノ缺點アリ、紀伊八代(やつしろみかん)ノ晚熟、良味アレドモ亦有核及土性ニ對スル好惡性ツヨキ缺點アリ。九年母(クネンボ)(*C. nobilis* Subsp. *genuina* var. *Kuney* (SIEB.) m.)ノ如キハ特異ノ香味ヲ有シ且大果ナリト雖モ外皮ノ厚、變味ノ著シキ等孰レモ多大ノ缺陷ヲ有スル也。其他ニ於テ大栽培ニ適スル良品種極メテ稀ナリ。

柑橘類ハ他果樹ト異リ其無核結實ニ對シ至高ノ價値ヲ附與スベキハ忘ル可カラザル事ニシテ今後進步セル栽培ニハ斷ジテ有核品種ノ混植ヲ許ス可カラズ。コノ點ニ於テ經濟上目下多少ノ利益ヲ擧ゲ居ル晚熟品[例ヘバ夏橙(なつだいだい又なつみかん *C. Aurantium* subsp. *intermedia* var. *Natsu-daidai* m.)又甜橙 Valencia late ノ如キ]ハ之ヲ推奬スルヲ欲セズ、却テ無核大果ニシテ甜橙 (Sweet Orange)トシテ缺點極メテ少ナキ Navel Oranges (臍甜橙)ヲ用キ、今日ノ貯藏法ヲ改良シ以テ晚熟品ニ充ツルノ利ナリトスベシ。猶早熟品トシテ知ラルヽ柑子(カウジ)類就中さがみたちばなハ經濟品トシテハ價値少ナケレドモ予ガ當局ニ推奬セシ豐後原産ノ早生溫州(ワセウンシウ) (Forma *praecox* m.)ノ如キ大ニ試ム可キモノナル可シト信ズ。

文旦類ニアリテハ大栽培ニ適セザレドモ內地産品中又長崎縣下ノ平戶(ひらど)、鹿兒島縣下ノ屋上(をがみ)ノ如キ極メテ優良ナル品種アリ、又願ルノ値アル也。

四、遺傳學上ヨリ見タル本邦柑橘種類改良ノ歸趨

以上諸點ヨリ吾人ハ目下柑橘類利用ノ範ヲ知リ得タリトスルモ更ニ遺傳學上ヨリ步ヲ進メテ之等果樹ヲ今後如何ニ向上改善セシム可キカハ最モ貴重ナル最後ノ問題タル可ケレバ予ガ自己ノ調査ヲ以テ確信スル種類改良上ノ方針ヲ左ニ摘記シ以テ本文ノ結論ニ代フ。

(一)無核種ノ育成。　單存結果(Parthenokarpie)ヲ行フ柑橘類中、溫州及 Navel Orange ハ本邦及他國ニ於テ多少ノ研究アリテ其形態學上ノ本質ニ就キテ明ニ知リ得タル點

近時 Washington Navel Orange 其他ノ洋種入リ來リテ本邦柑橘ノ「フロラ」ヲ亂ス事大也。然ルニ本類ハ維新後ノ輸入ナリトシテ一般ニ知ラルレドモ實ハ本邦ノ在來種ニシテ元良品ナカリシト內地ノ氣候ニ好適セザリシ爲、多ク世ニ出デザリシ也。唯僅ニ薩摩ノ金九年母(薩摩蜜柑)ノミ認メラレ居タリシガ予ノ實査スル所ニヨレバ紀伊ノあまだいだい(甘橙)、肥後ノかんとう(甘橙)、日向、豐後及土佐ノとうみかん(唐蜜柑)等皆甜橙タル也、而シテ其見ル可キ栽培限界ハ九州南部ヨリ以南ニアルコト頗ル明瞭ニシテ本邦中臺灣ハ最適地也。南清、印度ニ及ビテ良品ヲ產スルハ能ク其南方植物ナルヲ證ス。故ニ經濟品種トシテ餘リニ甚シク本類ヲ本邦地內ニ奬勵スルハ危險ニシテ臺灣ニ於テコソ大ニ推奬ニ値スト予ハ信ズ。

(三)文旦類 *C. Aurantium* subsp. *decumana*. 其栽培限界ハ琉球ヨリ臺灣ニ至リ印度ニ及ブ可シ。九州南部ト雖モ適所ニ非ズ、產地トシテ僅ニ見ル可キハ喜界島ニシテ奄美大島、薩摩ノ阿久根、肥後ノ八代等ハ極メテ多品種ヲ產スル割ニ良果少ナシ。臺灣ニ於テハ斗柚(トーユー)、白柚(パーユー)、橦柚(トーチユー)、文旦柚(ヴンタンユー)モ不良ナルモノナク殊ニ最良品蘇萱(var. *Matsoi* Hay.)アリテ大ニ名ヲナセリ。

(四)レモン及シトロン類 *C. medica* Linn. 其分布帶ハ最モ南シ印度ニ於テ最モ繁榮セリ。本邦現今纔ニ小笠原ニ其產ノ可ナルヲ見ルノミ。他ハ投機、觀賞的果樹ノ範圍ヲ脫シ得ザル也。

(五)以上分布上ノ重要種類ノ他金柑(*C. japonica* Lour.)ハ北限ヲ東京附近ニ有シ紀伊、備後、肥前等ノ間ニ最適地アリ、南下シテ印度ニ產スルモ經濟的價値遙ニ本邦ニ及バズ。だいだいハ可ナリ堪寒性アリテ東京近傍產スルアレドモ最適地ハ土佐ト日向ノ間ニアリ。ゆず(*C. Aurantium* subsp. *Junos*.)ハからたちニ次デ北シ東京、埼玉、及栃木ノ間ニ大產地アリ、而モヨク高溫ニ堪ヘ土佐及日向ノ山中ニハ野生ノ狀ヲナセルモノヲ見ル、支那及他邦ニハ目下全ク其產ナキガ如シ。本邦唯一ノ自生柑橘タルたちばな(*C. nobilis* Subsp. *Sintara* var. *Tachibana* (Mak.) Hay.)ハ其天然ノ分布琉球ヨリ海開嶽ノ南端ヲ經ヒテ大隅ヨリ日向南東岸ニ出デ就中日向南那珂郡ハ至ル所山中ニ自生シ、更ニ東シテ土佐南岸ヲ北シ牧野氏ノ報アリシ高知附近ハ勿論、東岸佐喜濱ニモ略々天產狀態ニ其產ヲ見或ハ終ニ紀伊ニ達セルカノ觀アリ。其他本邦ニテ成生セシ幾多ノ品種ハ是等ノ間ヲ點綴シテ豐富ナル日本柑橘帶ヲナセル也。

以上本邦柑橘ノ分布狀態ハ其經濟品種撰擇上一大示針ヲナスモノニシテ橘柑類(蜜柑類)ノ栽培ヲ以テ本邦柑橘等ノ主部トナサヾル可カラザルコト及內地甜橙ノ分布學上不利ナル事ノ二點ハ特ニ注意ヲ促サント欲ス。

三、種類學上ヨリ見タル良種

二、分布學上ヨリ見タル本邦柑橘ノ適種

東洋ニ於ケル柑橘分布ノ實狀ヲ檢スルニ假令其栽培植物ナルニ係ラズ自ラ一定ノ界限アリテ一種ノ帶ヲナスヲ察ス。コノ分布帶ハ諸種ノ人工的要件ヲ以テ亂サル、場合少ナカラザレドモ投機的乃至觀賞的ナラザル限リコノ限界ヲ超ユルニ於テハ幾多ノ天然的不利ヲ植物生育上ニ來シ、最小ノ勞賃ヲ以テ最大ノ收益ヲ目的トスル經濟的企業ノ一タル柑橘業ノ上ニ種々ノ不利ヲ來サシムルノ結果ヲ生ズ。故ニ今日ノ栽培品種ニ關シ嚴密ナル分布學上ノ批判ヲ加フルハ缺ク可カラサル所ナラン。然ルニ栽培植物ノ分布限界ニ就キテノ自ラ二樣ノ見解アルヲ免レズ、一ハ其植物ノ單ニ生育結實ニ堪フル極限ニシテ一ハ經濟的利用ニ充分ナル生育結實ヲ遂ゲ得ル範圍ヲ云フ、而シテ柑橘果樹ノ利用上必要ナルハ後者（假ニ栽培限界ト稱ス）ニシテ予ハ專ラ自己ノ實査ヲ以テ本邦重要種類ノ栽培限界ヲ假定シタレバ左ニ之ヲ記述セントス。

(一) 橘柑類（蜜柑類）*C. nobilis* Lour.　本邦內地ノ氣候狀態ハ恐ラク本類ニ向ツテ世界最適ノ位置ヲ與フ。南淸、交趾支那及印度ニ跨レル本類ハ孰レモ滿足ナル結實ヲ呈シ居ラズ、唯獨リ本邦ノ蜜柑ノミ世界ニ名ヲ知ラル、ハ決シテ偶然ニアラザル也。更ニ本類ニ就キ細別ヲ試ムレバ、

(イ) 柑子（かうじ）*C. nobilis* Subsp. *Sintara.* Engl. em. var. Koozi (Sieb.) m.　九州ニ全ク產ナシ。四國モ東方（阿波）ニ多ク紀伊、攝津之ニ次ゲリ。東海道ヲ北スレバ漸時其種類ヲ改メ駿河ニ入リテハするがゆこう（f. m. *monembryota* m.）相模ニ入リテハさがみたちばな（しらわかうじ、ふくれみかん）（form. *tumida* m.）多ク以テ磐城羽前マデ達セリ。

(ロ) 蜜柑正類 Subsp. *genuina* m. 特ニ本邦ニ最適也。內小蜜柑（きしうみかん、ほんみかん）ハ世界共通ノ品種（var. *typica* m.）ニシテ南ハ九州南部諸島嶼ヨリ北ハ越前ニ及ビ、中國ヨリ九州南部マデヲ最適ノ栽培限界トナス。溫州密柑（うんしうみかん）var. *Unshiu* m.）ハ種類學上ノ最良種ナレドモ其限界ハ却テ前者ヨリ狹ク最適地區ハ畿內以南九州中部ニ止マル如ク察ス。兩品共本邦果樹ノ王者ニシテ其樹齡三百年ニ達スルモノアリ、百年以上ノ老木又局地ニ多キヲ以テ如何ニ本邦內地ニ好適セルカヲ知リ得ベシ。

(ハ) 紅蜜柑 Subsp. *Keonla* Engl. em. 其限界ハ前二者ヨリ南ス。今日ノ分布極限ハ北ハ靜岡縣下ニアレドモ漸ク見ル可キハ紀伊以南ニシテ土佐ヨリ薩摩マデヲ最適產地ニ數フ可シ。注意スベキハ臺灣ニ堪熱良品種檸檬（var. *pseudonensis* m.）ヲ有スル事ニシテ印度又多品ヲ產スルハ本類ノ南方限界ニ於テ廣キ事前二者ニ優ルヲ示ス。

(二) 甜橙類 (*C. Aurantium* Subsp. *sinensis.*

近時最モ重ゼラル、モノナルヲ忘ル可カラズ。目下多クノ經濟品種ハ殆ド全クからたち砧ナリト稱シテ誤ナカル可ク、嘗テ本邦ニ於ケル重要砧木タリシゆず(*C. Aurantium* Linn. subsp. *Junos* (Sieb.) Mak. ヲ驅逐シ去リ、更ニ北米ニ其驥足ヲ延ベ Hardy trifoliata Stock ノ名ハ今ヤ各地ニ知ラル、ニ至レリ。而シテからたちノ眞價ハ今日吾人ノ明ニ知ル點ヨリセバ其接ガレタル植物ノ結果年齡ヲ早メ、且著シク其堪寒性ヲ增スニアリ、從テ本邦內地ニ於テハ經濟上本植物ヲ用キテ其樹齡ヲ促進セシムルニ利シ、北米フロリダニ於テハ降霜被害ニ對シテ有益ナル效力ヲ呈シツ、アル也。然ルニ從來本植物ハ堪寒性强ク其分布他ノ柑橘類ヨリ最モ少シ、本邦中部以北ニ於テ老木ヲ見ル事多キニ反シ南方ニ於テハ良木ヲ見ズ從テ九州南部ニ於テハ砧木トシテ其用途ヲ減ジ、日向ノ如キニアリテハ殆ド全ク利用サレズ却テ文旦類(ブンタン)(内紫類(ウチムラサキ))(*C. Aurantium* Subsp. *decumana* Linn.)ニ最モ近キ同國在來ノ山蜜柑(やまみかん)(*C. Aurantium* Subsp. *intermedia* m.)ハ其生育更ニ旺盛ナルヲ以テ彼ノ日向夏蜜柑(ひうがなつみかん)(*C. Aurantium* Subsp. *Junos* var. *Tamurana* m.)ヲ接グノ唯一砧木トナセリ、更ニ南下シテ臺灣ニ至レバからたち砧ハ全ク不適ニシテかうじニ近キ酸桔仔(スンケラー)ヲ以テ主ナル砧木用柑橘トナセリ。歐米諸國ヲ見ルニ其甜橙(スヰート)(Sweet Oranges *C. Aurantium* Subsp. *sinensis* Gall.)ヲ接グニ甜橙實生ヲ用ウル事從來ノ方法ナリシガ文旦類、酸橙類(*C. Aurantium* Subsp. *amara* Linn.)レモン類(*C. medica* Linn. Subsp. *Limonum* Lisso.)等又利用サレ、特ニ矮生砧木(接木サレシ植物ヲ矮生ニシ且結果年齡ヲ早ム)トシテ Otaheite Orange ヲ用ウルコトモ行ハル。○本邦ニ於テモ金柑(きんかん)(*C. japonica* Thbg.)ヲ以テコノ用途ニ宛ツル者アリ。文旦類ヲ砧木トシテ用ウルハ北米合衆國ノ外支那アリ、氣溫高キ地方ニ好適スル事諸多實驗ノ證スル所ナリ。又印度ニ於テハ Khatta Orange)*C. Aurantium* Subsp. *Khatta* Engl.)ヲ、濠洲ニ於テハレモンヲ用ウル事多シト云フ。

之等諸種柑橘類ノ特性ハ各別樣ニシテ土性、氣候及經濟上ノ關係ヨリ其撰擇ヲ異ニスト雖モ本邦內地ニ於テ單ニからたちノミヲ用ウルニ止マルコトナク山蜜柑又文旦砧木ヲ以テ特ニ成育惡シキ品種ノ促成ヲ計リ、又在來ノだいだい(*C. Aurantium* Subsp. *Amara* var. *Daidai* (Sieb.) m.)ヲレモンノ高接ニ利スル等ノ事ヲ行ハバ蓋シ幾分ノ益ヲ擧ゲ得ベシト信ズ。猶注意スベキハ堪寒砧木ノ外病蟲害ニ堪フル所謂免疫砧木(Resistant Stock)トシテ砧木ヲ撰擇スルコト諸邦ニ行ハル、彼ノ「ゴム」病(褐杭病)(Gummosis)ニ對スル最良ナル豫防手斷ハ本病ニ抵抗力强キ種類(例ヘバからたち)ノ高砧ニ接グニアリトセラル、如キ大ニ試ミテ可也ト考フ。

專門學校構內ノ一二株モ同年初夏ニ花ヲ出セリ）昨年末ニ至テ東京市內諸處ノモノ見ルトシテ花穗ヲ出サヾルナシ乃チ本年ニ入リテ大ニ花サクベキヲ豫想シ當時之ヲ國民新聞紙上ニテ世ニ報ジタリ本年ニ入テ果シテ滿都ノモノ皆盛ンニ花穗ヲ出シテ花ヲ開ケリ而シテ橫濱等ヲ始トシテ諸方ノモノ之ヲ見之ヲ聞クモ皆花ヲ出サヾルナシ然レバ今假リニ東京ヲ中心ニ擬スレバ周圍遠ク一帶ノ地同竹悉ク皆花ヲ開ケリ花後必ズ漸次ニ其竹ノ衰死ヲ招クトセバ則チ東京ヲ包ミタル一帶ノ地ハ近キ將來ニ於テ殆ンドかんざんちくノ痕ナキニ至ルヤ必セリ此ニ至テ庭前楚々タルかんざんちくナク其風致ヲ殺グ幾何ゾヤ

花後直チニ能ク穎果ヲ穗上ニ結ブ採テ直チニ之ヲ播種セバ乃チ日ナラズシテ仔苗ヲ生ズ盆養セバ則チかんざんちくノ小天地ヲ机上ニ眺ムルノ雅趣ヲ得ン

かんざんちくノ花穗偶マ異狀ノ成長ヲナスコトアリテ花穗恰モ紐ノ如ク一長穗上實ニ五十內外ノ花ヲ著クルヲ見ル此ノ如キ花穗ハ既ニ初夏ニ花サキシ舊株上ニ秋時ニ於テ出デシモノニシテ其初夏ニ出デシ常形ノ花穗ハ當時既ニ枯落シ其梗上ノ枝頭ニ再ビ花穗ヲ出セシモノ此ノ如キ狀態ヲ呈スルナリ而シテ各處ノ株皆此ノ如キコトアルヲ必トスルニアラズシテ唯偶發ノ一現象タルニ過ギズ前記松戶ノ園藝專門學校ニ花サキシ二株ハ秋時ニ及ンデ實ニ此ノ如キ異狀ヲ生ゼシナリ

通常世人ニかんざんちくノ一變種ナリト認メラルヽたいみんちくニハ敢テ花ヲ出スヲ見ズ予ハ此竹ヲ獨立セシ一種ト考ヘ Arundinaria graminea MAKINO ノ學名ヲ發表セリ而シテ琉球ニ產スル A. linearis HACK. ト或ハ同種ニアラズヤト思惟シ他日好材料ヲ得バ之ヲ比較シテ其如何ヲ決センコトヲ期セリ

○本邦產柑橘屬果樹ノ利用ニツキテ

田中長三郎

柑橘屬（Citrus）ハ多クノ重要ナル果樹ヲ含ミ其果ハ本邦果樹園藝產物ノ最主要部ヲ占メ、本州中部以西、四國、九州及臺灣ハ至ル所本果ヲ產セザルナキ盛況ヲ呈シツヽアリ。然ルニ此國產果樹ノ利用又ハ改良ニ關シ從來執行シ來リタル諸多ノ方法ハ本植物ノ科學的研究ニツキテノ不備多カリシガ爲未ダ遺憾ナル點少ナカラザリシヲ以テ吾人ハ少許ノ研究ヲ行ヒ以テコノ缺ヲ補ハントセリ。本文錄スル所單ニ其利用法ニ關セル少識ヲ開陳セルニ止マリ、其基礎タル種類學（Taxonomy）或ハ遺傳進化學（Genetics）上ノ實査ハ更ニ稿ヲ改メテ報ゼント欲ス

一、砧木用柑橘

からたち（*Citrus* (*Pseudaegle*) *trifoliata* LINN.）ハ本邦ニ於テ最モ廣ク分布スル本屬ノ植物ニシテ其利用ハ單ニ生垣用トシテ貴重セラルヽノミナラズ有用柑橘ノ砧木トシテ

合故近國之採藥も出來不申返す〳〵も殘念之事に御座候勿論堂上方御染筆も皆々致燒失候に付不能進呈候尚又京師へ申遣取得次第追而進上可申候左樣に御心得可被下候右件爲御答艸々如此に御座候時下御自玉御凌可被成候拜

廿一日　　蘭山

標左衞門樣

（文化三丙寅年九月晦日著）

「光按」ニ此書ハ文化三年三月四日江戸大火ニテ醫學舘幷ニ先生ノ居宅土藏ノ類燒セシヲ同月廿一日ニ通信セラレタルモノニテ史料トシテ大ニ珍重スベキモノナリト思ハル

（其十二）

如來書改歲之御慶萬里同祝先以愈御壯實御迎陽被成候條珍重之至に御座候當方無恙致加年候御休意可被下候爲御年玉黑のり一帋御惠贈辱致祝納候右爲後賀艸々如此御座候尚期永得候謹言

二月十一日　　小野蘭山

村松標左衞門樣

「光按」ニ此書年代知リ難ケレドモ先生東上以前ノモノナランカト思ハル

（其十三）

五月廿七日之御狀致延着候先以其節御壯實御凌被成候條珍重之至に候當方無恙罷在候御休意可被下候就は去臘廿日之返書及當二月廿八日返書等相屆候條致承知候此度品物壹箱被遣致一覽加朱致返呈候御收入可被成候問書一本被遣相預置申候尚閑暇見合御答可申入候且又救荒本草紀聞御○候に付御見せ被成度候條致承知候御遣し可被成候右件爲御報艸々如此に御座候時下秋暑甚候御自玉御凌可被成候拜

六月廿五日　　小野蘭山

村松標左衞門樣

左右

尚々貴地名產刺鯖三剌御惠投先達而相屆申慥致收入候誠に每歲入御念之事に御座候拜

八月十九日著

「光按」ニ此書モ年號知レザレドモ講義筆記ノ訂正依賴ニ答ヘタルモノナレバ先生東上以前ノモノナルベシ

○滿都ノかんざんちく花咲ク

牧野富太郎

東京ニ於テ四五年前高輪ナル海軍大將伊東祐亨君ノ邸ノかんざんちく（Arundinaria Hindsii Munro.）大ニ花サク是レ予ノ始メテ東京ニ同竹ノ花ヲ見ルノ始メナリ昨明治四十四年ニ至テ下谷區根岸ナル某氏ノ邸ニ植エタルモノニ初夏ノ候花ヲ生ジタリシヲ見ル（又下總松戸ナル園藝

有之足下之事も尋來り申候卽其狀差下し申候御覽可被成候右件爲御答如此御座候尙期來陽嘉音之時候拜

十二月　　小野蘭山

村松標左衞門樣　　左右

「光按」ニ此書ハ辰二月十四日着ノ書入アルニヨリ文化五年ノ書ナル事知ラル

（其十）

當地も春來甚不順之氣候に候然は去年度御不審書被遣候一は先便之節御返申候一は相頼り置申候此度も品物壹箱被遣候得共當年は不佞年賀に付門生中被開筵候に付前後大に致混雜不得寸隙候漸此節得少閑候故一覽加朱申候依而御問書は未及一覽候尙閑暇見合追々相考可進候貴地產品之義御丁寧に被仰遣忝候追々相考御頼可申入候此節は天狗之爪申受度候先達而御惠之內介之事も跡より御頼可申入候且又此度御入用之介類御書付被遣致承知候乍併一一は所持無之候其內小々は所持之品有之候間跡より致吟味可進上候此節右之取紛にて點檢も致かたく候尤此度鏊筵小牘と申出致著述新考等少々相弘申候追付上木出來次第可致進上候餘事期後音候拜

四月十一日　　蘭山

標左衞門樣

尙々此度之御書狀等は先後十六日に相屆申候得共取紛にて返書及延引候　（五月十五日著）

「光按」ニ是文化五年先生八十歲ノ時ノ書ナリ

（其十一）

尙々啓蒙之義舊冬に至て剞劂相揃候處此度板木皆爲烏有同姓も甚致傷心候事に御座候

正月十一日之御狀致敬披候先以御家內御揃御壯實之由珍重之至に御座候然は去秋は珍敷御參府にて綏々得御意大慶之至に御座候乍併御逗留數少殘念不少候御歸路御無難に閏月十八日に御歸宅之條大慶之至に候宇都宮邊より雨降越後地方迄晴天一日も無御座候由可爲御難澁夫故御採藥難出來候由誠御殘念之事に御座候處度押葉等一箱被遣一覽之上加朱及返呈候御收入可被成候且又金毛狗脊大寄居蟲蟹及木葉石、黃獨子羅望子等御惠被下忝致敬收候外に御不審一策被遣加朱御返し申候御收入可被成候鹽之義御禮被成候處赤穗同樣之由致承知候當年採藥之義奧州仙臺南部之內相願候處當時遠國之採藥之願相叶不申候旨若年寄より仰後甚殘念之義御座候右に付近國にても相願可申所存に御座候當月四日當地大風大火にて南之海濱大木戶田町と申處ゟ北野外淺草邊迄燒拔申候依而醫學館は土藏迄も爲灰燼申候蔽宅も同節小藏のみ相殘申候右に付時服器物書籍寫本類珍藏產物等多分爲烏有誠生涯之大厄難にて御座候此節他家致寓居不自由無此上事共に御座候乍併右燒失之節上下一人も無怪我相遁申候致大慶候右之仕

十五日　　蘭山

上書の寫

能劒町居村

松村標左衞門樣

返書

烏越町ゟ

二月十八日發(三月廿五日着)　　小野蘭山

「光按」ニ當年旅行云云ノ文ヨリ推考スルニ文化三年之書狀ナル事疑ナシ

(其八)

五月廿九日之御狀相達候其節霍天不順に御座候處彌御壯實御凌被成候條珍重之至に候當方無恙罷在候御休意可被下候然は舊冬相認候返書相屆候由致承知候御紙面數々御丁寧之至に候且又四月十一日相認候返書も五月に相屆候而當春之賀筵に付御祝被下酒肴料黃金一方御惠投忝幾久致祝納候誠に入御念候事厚謝申候小牘上木于今出來不申候出來次第進呈可申候介類之事致吟味候處兎角餘慶無御座候僅乍數品取出申候分進上申候御收入可被成候尙又追々可致吟味候此度木實化石天狗の爪二箇刺鯖壹苞等御惠贈忝致敬收候介類幷種子類何成共御惠投可被下候條忝候追々相考御賴可申入候且又天狗爪產所委細に御書被下別而忝候此度品物壹箱被遣一覽之上加書及返呈候御收入可被成候地耳御考之由壹包被遣候品は川のり類と相見へ申候地耳には不穩被存候此品御惠之由に候故留置申候又龜類之國一葉爲御見相成候是は加州にてウーカメと呼候由承及候卽海和尙(ヤサバ)の類にて御座候將又染筆一葉御所望之條致承知候後便迄相認置可申上候先達相預り置申候御問書も未遂檢察候追々相考可進候佐市義も前月十五日に無滯致歸宅申上候右件々爲御答艸々如此に御座候時下暑氣暴烈難堪候隨時御自玉御凌可被成候拜

七月初六　　小野蘭山

村松標左衞門樣

左右

「光按」ニ書中當春ノ賀筵ニ付御祝被下云云トアルハ文化五年三月廿一日ノ八秩の賀筵ノ事ヲ述ベタルニテ此ハ先生八十歲ノ時ノ書牘ナリ

(其九)

十五日之御狀相達候如來示甚寒之節愈御壯實に御凌被成候條珍重之至に候當方無恙罷在候御休意可被下候然は五月及七月之兩書中秋十六日相達候條致承知候此度品物一箱被遣一覽書加致返呈候御收入被成候且又富木浦小介貳箱御惠被下忝愷收入候先達而相預り置候御問書加朱申置候故此便に差立候御收入可被成候此度被遣候御問書は相預り置申候跡より加朱御返可申候又ミナシ介之義致承知候乍併此節は尋常の品類も皆々余慶無之候故進呈申難候尙致吟味取得候節進し可申候此間土州宮地郁藏より便り

月十八日發足シ四月廿二日歸京セラレシナリ

（其六）

尙々種子物御出付之中有合之艸も有之候も此節花開候未結實實然候節追々進可申候

前月五日之御狀相達候如來書其節暑氣に候處彌御壯實に御凌被成候條珍重之至に御座候當方無恙罷在候御休意可被下候然は先便差立候大箱等御入手被成候赴致承知候獨脚蜂眞物は相出不申海兎等の義御承知被下忝候此度銀ニナ。大チクサ二品御惠被下忝候ヲヒキ介も留置申候忝候外に能州方言壹冊被遣忝候此度大箱之中藥品介類艸木押葉等被遣一覽之上加朱申候藥品之內宜候品は加朱申候間左樣に御心得可被成候且又福浦ワカメ御惠被下早速致賞味忝候又啓蒙御入用由一部此間佐一より差出候樣申付候御收入可被成候次本出板は火急には出來申兼候出來次第差出可申候本艸草學急務は採藥宜候書物も追々出板も有之候由承及候得共所詮他流之書は反而疑惑之基に而御座候間御披見御無用に被有候此度も朱〇付候品も有之候御餘分御座候は、御惠被下度候介品總數は大抵千有餘種可有之候唐山にて千餘品有之候由廣東新語に相出申候此便に介壹箇進上申候貴地にも有之候得共當年採藥之節捨申候總州銚子浦にてバ介と呼常州鹿島見目浦にてウバ介と呼兩浦賤民屋上に並べ瓦の代に用候甚潔白にして見事成物にて御座候種子類御所望之由當時有合候三品進上申候皆八月に御蒔可被成候右件爲御答艸々如此御座候時下秋暑甚候御自玉御凌被成候拜

六月廿七日　　小野蘭山

村松標左衞門樣

左右

尙々土劦家中宮地郁藏と申醫人久々致京學於當地而出精之人にて御座候此節致歸國候序に北國廻加越各山心懸卽今日當地致發足候品に依貴地へも御廻候はば貴宅へも御尋申度候由に付委細所書も遣し置申候若右之人御尋申候は、何か御尋被成御相談被成可然候事に御座候乍序得貴意候拜　　江戶

「光按」ニ啓蒙初帙出版ハ享和三年ナレバ此書牘モ同年ニイダサレタルモノナルベシソハ此書中ニ啓蒙御入用由一部此間佐一ヨリ差出候樣申付候云云トアルニテ知ラル

（其七）

副言

異蜂一箇箱共御惠投忝致敬收候歌仙具之事揃兼候間追便之節差出可申候種子類書付被遣候當時有合之品少々進上申候當年旅行之義奧州邊之積に候得共啓蒙に取紛候間未治定無御座候此度押葉等一箱遣書加御返し申候御收入可被候其內葉不全或は節葉のみにて花なく難辨之品は書加不申候尙期後音候拜

（其三）

押葉一本及曲物壹個等被遣則一覽之上致加書及返呈候御收入可被成候且又東行之義は便先返書に申進候通來月は當地致發足候門弟之義も便先申上候通當地には高足者も無御座候加州津田宇内は御近國之事御座候間此方へ御尋被成可宜候本人只今は隨分齋と改申候金澤下堤町に而御座候又細葉蔘五實一包御被被下忝候拜

十一日　　標左衞門樣

十三通の内の一東行之義來月發足云云とあれは此書は寛政十一年所載のものなるを云ふ

「光按」ニ書中東行ノ義來月發足云云トアレバ此書ハ寛政十一年二月十一日ニ載セシモノナル事推知セラル此書ニヨリ當時京都ニ高足ナカラザリシ事津田宇内氏ノ事ナド考證ノ助ニ備フベシ

（其四）

二日之御狀相達候先以其節甚寒に候處愈御壯實御凌被成候條珍重之至に御座候當方無恙罷在候御休意可被下候此度爲御見舞白金一封御惠贈之處敬收候從去歲每々預御書東度々御音信被下何分於當所御用多相勤め別而當春より尙更繁多罷成候故不能返書品物も追々御遣被成候得共數多く〳〵して不能一覽候此度先一箱御返し申候殘品は追々閑隙之節致一覽御返し可申候於當處も每々申越し居候得共何分繁間及無音候尙期來陽嘉信之時候拜

十二月　　小野蘭山

村松標左衞門樣

左右　　酉二月十四日著

「光按」ニ書東ノ内容幷ニ酉年ヨリ考フルニ寛政十二年所載ノ物ナルベシ

（其五）

副章

春寒之節彌御壯健珍重之至御座候昨秋者幸採藥御用も無之候に付御出府御待申居候處御家內御故障有之候而無其義候由殘心不少候當年も來月は房總野州之方へ罷出申候此度獨脚蜂之由一箇御惠被下忝候委曲に御書付被下候獨脚蜂之類と相見へ申候貝類壹箱被遣一覽之上書加御返申上候御收入可被成候此內朱窠を加置候品は重而御捨得之節御惠被下度候先達而より御預り置申候內大箱壹ツ此度御返し申候改年留置候故蛙或朽腐之品多御座候故甚者は相弃申候間左樣御心得可被候右件爲御卉々之如此御座候時下御自玉御凌爲成候拜

二月晝日　　蘭山

村松標左衞門樣

左右

「光按」ニ先生ノ日記ニヨレバ蘭山先生ガ上總下總常陸へ採藥ヲ命ゼラレシハ享和三年二月廿日ニシテ三

右は今回の美擧に感し聊か微意を表するまてに御座候
幸ひに御愛受も被下候はゞ光榮不過之候頓首

石川縣能登國羽咋郡堀松村
明治四十二年四月十四日　村松伊平印
東京植物學會御中

蘭山先生村松標左衞門氏に與ふる書牘十三通の寫し

（其一）

舊臘廿七日之御狀相達候先以改年之慶四海同祝愈御壯實
御迎春可被成珍重之至に御座候當方無恙致加年候御休意
可被成候誠舊冬は御上京被成得寬談大慶之至に御座候御
逗留短殘心不少候御紙面入御念候事に御座候就は御國產
福浦之黑のり壹袋御惠贈致敬收候早速致賞味候處若舛邊
之產には大優り申候堪珍賞候右件爲御報艸々如此に御座
候尙期後嘉之時候謹言

二月二日　小野蘭山

村松標左衞門樣

左右

尙々不佞義當年古稀に相成候に付乍麁末此壹包致進呈
候誠に相祝申候印迄に御座候間御叱留可被下候拜
光按ニ書中不佞義當年古稀ニ相成云云ノ文字アレバ此
書バ寬政十年則先生七十歲ノ時ノ書ナル事推知セラル

（其二）

九月廿九日御狀相達候如來翰其節冬氣相催候處愈御壯實
御凌被成珍重之至御座候當方無恙罷有候御休意可被下候
然は先達之返書致延着候條承知致候來春は數度海邊へも
御出貝類も御拾集可被下候條忝候此度鯖〇腸壹桶御惠贈
辱致敬收早速致珍賞候押葉一本品物一曲等被遣一覽之上
加書及返呈候御收入可被成候別紙被仰遣候種子之義致承
知候當年少々修造に付艸木移植候に付相枯候も多有之候
故種子も數少候仍而有合申候數品進上申候御收入可被下
候且又內門之義被仰遣候此義は綱目會讀壹周相濟候人に
許申候事家法に而御座候遠國之人は我意なく數年被相勤
候得ば會讀一周に準し而相許候必竟數年修練に依而相許
候事に候金銀を以相許候事に而は無御座候間左樣に御心
得可被成候右件爲御答艸之如此御座候時下大寒隨時御自
愛御凌可被成候

十二月初二　小野蘭山

村松標左衞門樣

不佞此度御用に付東都へ可罷下候由御奉書之赴十月五
日に被仰候依而來春暖和に相成候得ば出府申候就夫支
度傍甚繁多罷暮居申候

「光按」ニ書中不佞此度御用ニ付東都へ可罷下候由御
奉書之赴十月五日被仰云云トアレバ此書ハ寬政十年
十二月ノ書柬ナル事明ナリ書中內門ノ規定ヲ記スル
箇條尤モ注目之價アリ

ハ浮上ガ常ニ強キ日光ニヨリ起ルヲ以テ明ナリト云フベシシユレーデルハ藍藻ニ附著セル硅藻ノ同化作用ガ浮上リヲ助クルモノナリト云フモ本著者ハ硅藻ノ混入少キ藍藻塊ガ浮上スル事實ヲ以テ考フレバ硅藻ノ助少シト云フ。以上ノ如キ河水浮游生物ナルモノヽ出源ハ從來ノ研究ニ一新事ヲ加ヘタルモノニシテラウテルボルンノ來箇河ノ浮游生物ハ入江、古河、及ツーリツヒ湖ヨリ發源スルトノ事實及ルツトネルガフヲーグ水道中ノ微少植物ガ氷解時期ニ增加スルトノ二大出源ニ對シ筆三ノ出源ヲ明ニセルモノト云フベシ。此等ヨリ見ルニ河水浮游生物ナルモノハ共ニ一時的發生ナルハ注意スベキモノナリ。

(H. Nakano.)

◎雜錄

小野蘭山翁書牘に就て

白井光太郎

一昨々年卽明治四十二年四月十八日小石川植物園内集會所ニ於テ開催セシ小野蘭山先生百年紀念展覽會ニハ種々貴重ナル參考書及物品圖畫ノ類ノ出陳アリテ大ニ本邦植物學ノ發達ニ關スル智識ヲ增進シ且蘭山先生ノ眞面目ヲ彰表シ得タルハ吾人ノ今尙ホ記憶シテ忘レザル所ナルガ此時集マリシ先生ノ筆跡中書牘ノ數五十一通アリシ事ハ會後發行セシ本誌蘭山紀念號中ニ記載セシ所ノ如シ其細別ハ村松氏ニ與フル書十三通兼葭堂ニ與フルノ書十四通山本永吉氏ニ與フル者八通ナリ其他ハ名宛ノ詳ナラザル者又ハ各通宛名ノ異ナレルモノナリ紀念號ニハ餘白ヲ存セザリシヲ以テ一々其文言ヲ揭出スルヲ得ザリシト雖モ此中村松氏ニ與フル十三通ノ書牘ハ村松氏ノ後裔村松伊平氏ガ蘭山先生百年紀念會ノ擧アルヲ聞キ左ノ書柬ヲ添ヘテ特ニ本會ニ寄贈セラレタルモノナレバ之ヲ其儘ニテ世ニ公表セズ筐裡ニ埋沒セシムルハ寄贈者ノ本意ニモ反ク事ト思ハルノミナラズ參考ニ益アル事モ少カラザレバ聊カ紀事ノ内容ニヨリテ書柬ノ年代ノ前後ヲ考ヘ愚按ノ小解ヲ加ヘテ本誌ニ揭載スル事トセリ

村松伊平氏より植物會へ贈られたる書柬の寫し

拜啓今回貴學會の御主催を以て小野蘭山翁の一百年祭御擧行可成候旨新聞紙上に拜見仕感慨に堪へざる事情あり茲に愚書を謹呈して貴會に懇請す小生曾祖父村松標左衞門は當時小野蘭山先生と交際不淺尤博物學に熱心し同翁より來簡不少幸ひに小生保存今日に及びたるものあり今回遺墨展覽會も御開催の由に付別紙目錄の通爲紀念寄附仕候に付御好望の會員諸君へ御分配等可然御取斗ひ可被成候且御參考旁曾祖父標左衞門の墓誌全文も寫相添呈候間之れにて人物御了知被下度願上候

◎新著

○ブレーム氏、『河水浮游生物ノ起原ニ關スル觀察』

V. Brehm: Beobachtungen über die Entstehung des Potamoplanktons (Internat. Rev. d. Gesamt. Hydrob. u. Hydrograph. Bd. IV. Heft 3 u. 4. 1911.)

從來湖水浮游生物ノ研究ハ稍完璧ニ近キモノアリト雖河水浮游生物ノ研究ハ尙極メテ幼稚ノ狀態ニアリ。殊ニ河水浮游生物（Potamoplankton）ナル文字サヘ現時其存在ヲ許ス可キカニ關シテ吾人ハ大ナル疑ヲ挾マザルヲ得ザルナリ。何トナレバ最初河中ニ發見セラレタル生物モ後ニハ靜水ニモ住居セルモノナルヲ知ルニ至リタル例多キヲ以テナリ。又河水浮游生物ナルモノヽ大部分ハ浮游生物ニアラズ。岸邊又ハ河底ノ附著生物ニスギザルナリ。而シテ從來ノ研究ニ徹スルニ河水浮游生物ハ多ク其河自身ニ生ズルニアラズシテ之ニ附屬セル入江又ハ古河ヨリ發生セルモノナルヲ以テ Potamo ナル冠頭ヲ附スルハ穩當ノ處置ニアラザルナリ。卽チ斯種ノ河水浮游生物ナルモノハ一時假ノ住居ヲ河水ニ求ムルニスギザルヲ以テ其中ニ繁殖スルコト勿論不可能ニシテ漸時ニシテ消滅スルヲ常トス。

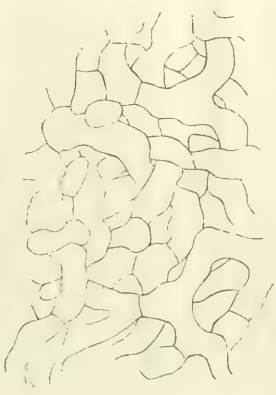
然ルニ玆ニ吾人ノ注意スベキ一現象アリ。入江及古河ニ存在セザル生物ノ河水ニ發現セルコト少カラズ。而シテ該現象ハ常ニ靜流ニ起ルモノニシテ流水ノ岸ヲ洗ヒ其生物ヲ剝奪セシヲ考フル能ハザルナリ。

著者ハ曾テ北部テセルノエゲル河ノ浮游藍藻塊ト浮游動物トノ關係ヲ記述セシコアリシガ今ヤ更ニ該河ノ浮游生物ガ藍藻ノ浮上ニヨリテ發生スルヲ明ニスルニ至レリ。該河ハ平常支流ノ生物ヲ混入セザルモノニシテ例ヘバ氏ハエゲル河ニ接續セル支流ニ夥シキ *Cyclops serrulatus* ヲ發見セルモ本流ニハ毫モ之ヲ認メズ只ニ暴風ノ際ニノミ支流ノ生物ガ本流ニ混入スルコトアリ。例ヘバかはもづくノ如キヲエルボーゲンノオイグレナヲ混入セル本流中ニ發見セシガ如シ。是支流ノ清流ニ發見セラルヽモノナリ。然モエゲル河ノ主要ナル浮游生物ハ定性又ハ定量研究ニヨルモ全ク藍藻塊上ニ附著セシモノヽ散布セシニスギザルヲ明ニセリ。卽該河ノ浮游生物ハ全ク藍藻ノ繁殖期ニ從ツテ增加スルモノニシテ夏期ノ候ニハ夥シク藍藻ノ一種ナル *Oscillaria limosa* 繁殖シ好天氣ニハ同化作用ノ結果酸素ヲ作リ其浮力ニヨリ多クノ藍藻塊ハ岸ヲ離レ浮上シ之ト共ニ其上ニ附著セル動物ノ水中ニ散布スルヲ見ルナリ。藍藻ノ浮上ヲ助クルハ或ハ「メタン」瓦斯ノ作用ニ因ルニアラズヤト疑フ人アランモ其然ラザル

莖ノ生死	死	生稀ニ死
菌核ノ形狀	球狀、圓狀乃至融合狀	饅頭狀、圓狀、楕圓狀、融合狀、不規則
菌核ノ表面	平滑、黃褐色乃至栗褐色	粗面、暗褐色
菌核ノ下面	凸又ハ平	凹
菌核ノ大サ	○・五－三×○・五－一	○・五－八×○・五－三
菌核內部ノ色彩	外皮、褐色內部白色	暗褐色
菌核ノ構成	組織ヲナサス	組織ヲナサス
菌核ヲ組成セル菌絲	無色、光線ヲ屈折ス	褐色、多クノ無色ナル顆粒狀物ヲ含ム
子實層面ノ色彩	白色	灰白色
擔子囊ノ形狀	長倒卵狀－短棍棒狀	倒卵狀－長倒卵狀
擔子囊ノ大サ	九－二〇×五－七	一〇－一五×七－九
小梗ノ數	二或ハ四	二或ハ四
小梗ノ大サ	三－七×一	四・五－七×二－三
胞子ノ形狀	倒卵狀斜形	倒卵狀－楕圓狀
胞子ノ大サ	五－一〇×三・五－六	八－一一×五－六・五

生	死	生
饅頭狀、圓狀乃至融合狀、不規則	球狀、圓狀乃至融合狀	饅頭狀、圓狀乃至融合狀、不規則
粗面、黑色	平滑、黃褐色乃至栗褐色	粗面、灰色乃至灰褐色
平	凸又ハ平	平
○・二－二×○・二－○・六	○・五－三×○・五－一	○・四－一・五×○・四－一・二
黑色	外皮、褐色內部白色	灰褐色
組織ヲナサス	組織ヲナサス	組織ヲナサス
煤色、節間著シク膨大ス	無色、光線ヲ屈折ス	淡煤色、節間稍々膨大ス
灰白色	白色	灰白色
倒卵狀	長倒卵狀－短棍棒狀	球狀－短倒卵狀
一二－一八×九－一〇	九－二〇×五－七	一〇－一四×一二－一三
一乃至四	二或ハ四	二
九－一五×二－四	三－七×一	一一－一二×三－三・五
倒卵狀－楕圓狀	倒卵狀斜形	球狀－倒卵楕圓狀
九－一二×六－七	五－一〇×三・五－六	一一－一二×六－七

至灰褐色饅頭狀ニシテ圓形時ニ融合的ナル不正形ノモノアリ外面微カニ粗面ナリ下面即チ寄主ニ附着スル部分ハ平カニシテ凹陷セズ稀ニ少シク凹陷スルモノアリ之レヲ切斷スレバ內部外面ト同色ナリ其薄片ヲ作リ鏡下ニ窺ヘバ柔軟組織狀ナラズ又心髓外皮ノ差別ナク分枝セル菌絲ノ錯綜ヨリ成リ細胞膜ハ淡煤色ニシテ內ニ含有物ヲ認ムベカラズ



粟灰色白絹病菌擔子嚢、胞子及菌核ノ斷面
(Reichert 4×7a)

子實層ハ葉鞘上ニ生ジ灰白色ニシテ微細ナル粉末ヲ布ケル如キ觀ヲ呈ス擔子嚢ハ球狀乃至短楕圓狀大サ一〇－一四×一二－一三μアリ頂ニ二個ノ小梗アリ小梗ハ少シク彎曲シ先端ニ向ツテ漸尖ナリ大サ一一－一二×三－三・五μアリ其頂ニ各一個ノ胞子ヲ着生ス胞子ハ無色單胞球狀乃至倒卵楕圓狀ニシテ基端ニ小突起ヲ有ス大サ一一－一五×一〇－一二μアリ

第六章　摘要

以上記シ來リタル所ニヨリ四種ノ白絹病菌ガ如何ナル特性ヲ有シ如何ナル差違ヲ有スルカニ就テハ明カニ區別シ得ベキモ猶單簡ニ理解セシメンガ爲メニ左ニ表ヲ示シテ要點ヲ掲グベシ

要點	瓜類白絹病菌	樟大粒白絹病菌	樟小粒白絹病菌	粟灰色白絹病菌
被害部分	莖、葉、果實	葉、葉鞘	葉	葉、葉鞘

三、驅除豫防法

一、發病ヲ認メタル時ハ被害株ヲ拔取リ菌核ヲ落サヾル樣燒却スベク其跡地ニ木灰ヲ布クベシ

二、前年ノ發病地ニハ他ノ作物ヲ作ルベシ

三、蔭濕ヲ避クベシ

此性狀全ク樟大粒白絹病菌ト同樣ニシテ又同時ニ發生スルモノナレバ樟大粒白絹病ト同方法ニテ驅除豫防スベシ

第五章　粟灰色白絹病

一、總說

本病ハ粟ノ葉鞘及葉ニ起ル病害ニシテ其狀態恰モ樟大粒白絹病菌ガ粟ヲ侵シタルニ酷似セリ而シテ其菌核子實層等モ頗ル類似シ一見誤ルベキモ精細ニ之レヲ觀察スレバ其普通ニアリ得ベキ菌核ハ形狀小ニシテ且ツ多數群ヲナシテ形成セラレ灰色乃至灰褐色ヲ呈シ又之レヲ組成セル菌絲ハ淡煉色ニシテ柔軟組織ヲナサズ又其樟子囊ハ球狀ニシテ二個ノ大ナル小梗ヲ具ヘ胞子モ球狀乃至倒卵狀楕圓ナルニヨリ明カニ區別シ得ベキモノナリトス而シテ記文ニ徵スルモ之ニ符合スルモノヲ得ズ乃チ余ハ之レヲ新種ト認メ *Hypochnus Setariae* Sawada. ト命名セリ又其和名ニ就テハ他ノ白絹病菌卽チ粟大粒白絹病菌(*Hypochnus Susaki* Shirai)及粟白絹病菌(*Hypochnus centrifugus* (Lév.) Tul.)ト區別センガ爲メニ其菌核ノ色彩ニヨリテ粟灰色白絹病菌ト呼ビ之レニヨリテ起ル粟ノ疾病ヲ粟灰色白絹病ト命ジタリ

二、病徵

葉鞘及葉ニ發病ス初メ地際ニ於ケル葉鞘ニ現ハレ不規則ナル帶暗褐色ノ病斑ヲ生ジ漸次中央褪色シテ灰白色トナリ又傳染シテ病斑相連リテ生ジ後ニ至リテ帶暗色ト灰白色トヲ交ヘタル茫然タル雲狀ノ病斑トナル之レガ爲メニ葉鞘枯死シ從ツテ枯葉ヲ來ス又葉及上方ノ葉鞘ニ傳染ス大粒白絹病ノ病徵ニ相似タルモソレノ如ク迅速且ツ激甚ナラズ罹病局部ニ注視スル時ハ多クノ灰色乃至灰褐色ノ小形ナル饅頭狀ノ菌核ノ群生スルヲ認ムベシ又同葉鞘上ニ布ケル灰白色粉末狀ノ子實層ヲ發見スベシ

三、病原菌

Hypochnus Setariae Sawada. Sp. nov.

菌絲ハ初メ白色ニテ後淡褐色トナル疎ニ蔓延シ肉眼ニテ認メ難シ兩叉分枝シ隔膜ヲ有シ直徑三―六 μ アリ

菌核ハ散生或ハ群生シ一セ、メ、平方ニ拾五六個ヲ形成ス大サ〇・四―一・五×〇・四―一・二ミ、メ、アリテ灰色乃

出田新－日本植物病理學九一三頁（一九一一）

菌絲ハ蜘蛛巢狀白色ニシテ疎ニ走リ後褐色トナル而シテ瓜類白絹病菌ノ菌絲ノ如ク密ニ併列スルコトナシ隔膜ヲ有シ分枝シ內ニ多クノ空胞ヲ作ル葉ノ組織內ニ入ルモノハ空胞ナク又吸器ヲ有セズ一種ノ酸ヲ分泌シテ寄主ノ組織ヲ腐敗セシム菌絲ノ太サ三－九μアルモ普通六－八μアリ菌絲ノ一部密ニ分枝集合シテ菌核ヲ形成ス

樟小粒白絹病菌擔子囊、胞子及菌核ノ斷面
(Reichert 1×7a)

菌核ハ一葉上數十個ヲ生ズ初メ白色ナルモ一二日ニシテ黑色ニ變ジ粗面ニシテ形多クハ圓狀卵狀又融合狀ナルモノアリテ饅頭狀ナリ又寄主ニ附着スル部分ヲ見ルニ大粒白絹病菌ノ菌核ノ如ク凹陷セズシテ平坦ナリ之レヲ切斷スレバ內部外面ト同色ニシテ更ニ顯微鏡下ニ窺ヘバ內部柔軟組織狀ナラズ煤色ニシテ節間著シク膨大セル菌絲ヨリ成ル而シテ外皮心髓ノ區別ナシ菌核ノ大サ〇・二－二×〇・二－〇・六ミ、メ普通〇・三－〇・七ミ、メアリ又濕室內ニ於テ形成セラレタルモノハ〇・四－一ミ、メノ大サアリ之レヲ樟及稻ノ煎汁寒天培養基中ニ培養スル時ハ樟大粒白絹病菌ハ僅カニ二－九個ヲ形成シタルニ不拘本病菌ハ優ニ三百個以上ヲ形成セリ

子實層ハ莖、枝及葉上ニ形成セラレ微細ナル灰白色ノ粉末ヲ一面ニ布ケル如シ擔子囊ハ無色倒卵狀ニシテ大サ一二－一八×九－一〇μアリ頂ニ一－四個ノ小梗ヲ著クルモ普通普個ニシテ比較的大形九－一五×二－四μノ大サアリ其頂端ニ各一個ノ胞子ヲ着生ス胞子ハ無色單胞倒卵狀ニシテ基端少シク突リ大サ九－一二×六－七μアリ

九月ヨリ十二月ニ亘リテ發生ス

四、驅除豫防法

八、他ノ寄主植物上ニ發病ヲ認メタル時ハ猶豫ナク蔓延ニ先チテ驅除スベシ

第四章　樟小粒白絹病

一、總說

樟小粒白絹病トハ樟小粒白絹病菌 *Hypochnus (Cinnamomi* ノ侵害ニヨリテ起ル樟苗ノ病害ヲイフ本病ハ病徴樟大粒白絹病ニ酷似スルモ病原菌ノ菌核ハ極メテ小形ニシテ黑色一葉上多クトモ四五粒ヲ形成スル大粒白絹病ト差違シ數十ヲ形成スルト檐子囊及胞子等ノソレヨリ大ナルトニヨリ區別シ得ベシ又二者ヲ稻煎汁寒天培養基ニ培養スルモ菌核ノ數ト大サトニ實ニ著シキ差違ヲ生ズ此等二者ヲ區別スル名稱トシテ樟大粒白絹病菌ニ對シ小粒白絹病菌ナル名ヲ與ヘタリ明治四十三年十二月臺灣農事報第四十九號ニ記スル如ク余ハ明治四十三年十月南投廳龍眼林苗圃及林圯埔苗圃ニ於テ始メテ發見シタルモノナリ此害大粒白絹病菌ニ比シ劣ルコトナキ有樣ニシテ樟ノ外他ニ寄主植物ノ存在スルモノアルガ如ク思ハルヽモ未タ之レヲ發見セズ

二、病徴

本病ハ重ニ樟苗ニ發病シ葉ヲ皆枯死落下セシメ圃場ニ一群ノ缺斑ヲ作ル菌絲ハ初メ葉ヲ登リテ下葉ヨリ上葉ニ及ボシテ被害ス被害葉ハ初メ不規則ナル黑褐色ノ病斑ヲ作リ漸次褐色更ニ灰色トナリ又相隣接スル葉ヨリ他株ニ傳染シ數十ノ一群皆裸木トナルモ莖ハ枯死スルコトナク再ビ嫩葉ヲ發シ普通ノ狀態ニ復ス然レドモ健全株ニ比スレバ一段ノ差ヲ生ズ又菌絲ニヨリテ二三葉結付ケラルヽコトアリ菌絲ハ蜘蛛巢狀ニシテ疎ニ走リ初メ白色ニシテ後褐色トナル等殆ンド樟大粒白絹病ノ病徴ト一見異ルコトナシ然ルニ其菌核ハ極メテ小形ニシテ黑色一葉上數十ヲ形成ス又葉上被害局部ト然ラザルトニ不拘菌絲ノ存在スル所及枝上ニ灰白色ノ粉末ヲ一面ニ布ケル如キ子實層ヲ形成ス

三、病原菌

Hypochnus Cinnamomi SAWADA.

澤田兼吉―樟白絹病ニ就テ(臺灣農事報第四十九號)(一九一〇)

新竹廳ー三叉河、食水坑、
臺中廳ー新社、
南投廳ー龍眼林、林圯埔、
臺南廳ー大目降、橋仔頭、鳳山、
阿猴廳ー蕃薯寮、阿猴、
花蓮港廳ー花蓮港、吳全城、
臺東廳ー里壠、
等ニシテ全島殆ンド到ル處ニ存在スルヲ確メタリ而シテ其發生時期ハ年中缺クルコトナク其最モ盛ンニ發生スルハ六月ヨリ十一月ニ至ル間ナリ

六、驅除豫防法

一、多濕或ハ排水ヨカラザル土地ハ然ラザル地ヨリ病菌ノ蔓延ヲ誘助スルヲ以テ苗圃トナスベカラズ
二、前年ノ發病地ニハ菌核殘存スルヲ以テ可成無被害作物ト輪作又ハ休作スベシ
三、種子ハ密播ヲ避ケ苗ハ可成密植セザルベク能ク除草シテ風通シヨキ樣ナスベシ
四、病菌ノ發生ヲ認メタル時ハ苗ノ地際ヨリ切採リ落葉ハ丁寧ニ悉ク桶又ハ石油鑵等ノ如キモノニ取集メ共ニ速ニ燒却スヘシ但シ器物ハ使用後消毒スルヲ要ス
五、斯クナシタル後其地及其附近ニ木灰ヲ布クベシ耐久的繁殖器管卽チ菌核ハ木灰三倍水溶液ニ五時間浸漬シテ全ク消毒セラレ而シテ他ノ消毒液ヨリ以上ノ效果ヲ奏シタル實驗ニヨリ又最モ低廉ニシテ何レノ地ニ於テモ容易ニ得ラルヽモノナレバナリ
六、又一葉ニテモ被害葉ハ注意シテ取集メ燒却シ且ツ其附近ノ苗上ニ二斗式「ボルドー」合劑ヲ撒布スベシ
七、苗圃ノ附近ニハ他ノ被害植物ヲ栽植セザル樣注意スベシ

37. *Dolichos* Sp.

38. *Phaseolus mungo* L. あづき

39. *Phaseolus trinervius* HEYNE.

40. *Phaseolus vulgaris* L. いんげんまめ

41. *Pueraria Thunbergiana* BENTH. くず

42. *Vigna sinensis* HASSK. ささげ

11. Malvaceae　錦葵科

43. *Urena lobata* L. var. *tomentosa*. MIQ. おばばぼんてんくわ

12. Marsileaceae　蘋科

44. *Marsilea quadrifoliata* L. でんじぐう

13. Moraceae　桑科

45. *Morus alba* L. くわ

14. Pontederiaceae　雨久花科

46. *Eichhornia crassipes* SOLMS. ほていさう

47. *Monochoria vaginalis* PRESL. こなぎ

之レニ既知被害植物ヲ加フレバ實ニ本病菌ハ五十七種ノ植物ヲ侵害シテ恐ルベキ病害ヲ釀スモノナルヲ知ル、

五、分布及發生時期

本病菌ノ分布ニ就テ諸書ニ現ハレタル所ニヨレハ爪哇、日本及臺灣ニ於テハ其蔓延實ニ烈シク余ガ調査シタル所ニヨレハ

臺北廳ー深坑、臺北、頂內埔、三重埔、

20. *Imperata arundinacea* Cyr.ちがや
21. *Ischaemum rugosum* Sal. var. *segetum* Hack. たいわんあいあし
22. *Miscanthus japonicus* Anders. ときわすゝき
23. *Oryza sativa* L. いね、陸稻、水稻、
24. *Panicum Crus-galli* L. のびえ
25. *Panicum repens* L. はひえび
26. *Panicum sanguinale* L. めひじは
27. *Panicum violascens* Kunth. むらさきめひじは
28. *Saccharum officinalum* L. さたうきび
29. *Setaria italica* Beauv. あは
30. *Zizania latifolia* Turcz. まこも
31. 未詳種（水中ニ自生スル）

8. Labiatae　唇形科

32. *Mentha piperita* L. var. *officinalis*. Sol. (White mint)

9. Lauraceae　樟科

33. *Cinnamomum Camphora* Nees. et. Ebe. くす

10. Leguminosae　荳科

34. *Arachis hypogaea* L. なんきんまめ
35. *Canavalia ensiformis* DC なたまめ
36. *Dolichos lablab* L. まめ

4. *Elephantopus scaber* L. にがかうそりな

4. Convolvulaceae　旋花科

5. *Ipomaea aquatica* Forsk. ようさい

6. *Ipomaea Batatus* Lam. さつまいも

7. *Ipomaea calycina* Benth.

5. Cucurbitaceae　胡蘆科

8. *Luffa cylindrica* (L.) Roem. へちま

6. Cyperaceae　莎草科

9. *Cyperus Iria* L. こごめがやつり

10. *Cyperus rotundus* L. はますげ

11. *Fimbristylis miliacea* Vahl. ひでりこ

12. *Kyllinga brevifolia* Rottb. ひめくぐ

13. *Scirpus erectus* Poir. はたるゐ

7. Gramineae　禾本科

14. *Andropogon aciculatus* Retz. おきなはみちしば

15. *Arthroxon ciliare* Beauv. しろこぶなぐさ

16. *Cynodon Dactylon* Pers. ぎやうぎしば

17. *Eleusine indica* Gaertn. おひじは

18. *Eragrostis plumosa* Link. ぬかかせくさ

19. *Eriochloa villosa* Kunth. なるこびえ

ノ上ニ灰白色ナル微細ノ粉末ヲ一面ニ布ケル如ク形成セラル余ガ實驗ニヨレハバ、稻、粟、甘蔗等ノ如キ比較堅キ植物上ニハ稀ニ之レヲ形成シ菜豆、豇豆、甕菜等ノ如キ比較的多肉性ノ植物ノ上ニハ常ニ之レヲ發見シ得子實層ノ一部ヲ取リ鏡下ニ窺ヘバ短小ニ多分枝セル菌絲ノ集合セル列ヨリ成リ其先端圓頭ヲナス之レ擔子囊ニシテ擔子囊ハ倒卵狀乃至長倒卵狀ニシテ大サ一〇－一五×七－九μアリ其頂ニ二或ハ四個ノ小梗ヲ着ク小梗ハ初メ疣狀突起ヲナシ漸次老成スルニ從ヒ稍々彎曲セル太キ針狀トナリ大サ四・五－七×二－三μアリ其頂ニ各々一個ノ胞子ヲ着生ス胞子ハ無色單胞倒卵狀乃至楕圓狀ニシテ基端少シク斜形ニシテ小突起ヲ有シ其大サ八－一一×五－六・五μアリ

四、被害植物

本病菌ノ被害植物トシテ既ニ知ラレタルモノ十七種アリ卽チ稻、粟、麥、かもぢぐさ、かやつりぐさ、めひぢは、すげ、大豆、小豆、豇豆、牛蒡、樟、わせをばな、つのあいあし、くずうこん（アロールート）甘蔗及 *Saccharum Solweddi* KOBUS. ナリ然ルニ本島ニ於テ余及藤黑與三郎氏ノ調査ニヨリテ知リ得タル植物ハ實ニ十四科四十七種ニシテ內栽培植物十八種野生植物三十九種ナリ此等ノ被害植物ハ同所ニ於テ同一菌ニ侵サレタルト其主要植物ヲ相互ニ菌絲ヲ交換シテ接種試驗ヲ行ヒ能ク皆感染シタルト且ツ肉眼的鏡檢的ニ同一種ノ菌ニ侵サレタルモノナルコトヲ確認セリ左ニ被害植物ヲ分科シテ擧グレバ

1. Amarantaceae　莧科

1. *Alternanthera sessilis* R. Br. つるのげいたう

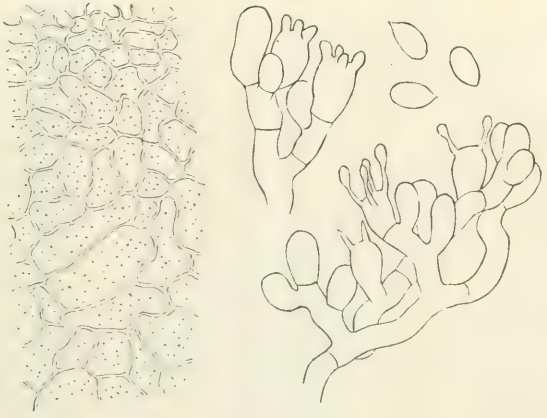
2. Commelinaceae　鴨跖草科

2. *Commelina nudiflora* L. しまつゆくさ

3. Compositae　菊科

3. *Eclipta alba* (L.) HASSK. たかさぶらう

直徑四－一二μアルモ普通七－九μナリトス寄主ノ表面及内部ニ侵入シ吸器ヲ有セズ一種ノ酸類ヲ分泌シテ枯死セシム四十三年十月十三日林圮埔ニ於テ採集シ標本棚内ニ保存シ置キタルモノニシテ菌核ヲ付ケザル被害樟葉ヲ四十四年九月ニ至リ濕室内ニ入レ置キタルニ菌絲ハ充分發育シ數日後ニシテ多クノ菌核ヲ形成シタリ即チ菌絲ノミニシテ優ニ一ケ年間生存シ得ルコトヲ知ル



樟大粒白絹病菌擔子嚢、胞子及菌核ノ斷面
(Reichert 4×7a)

菌核、今菌核又ハ被害葉ヲ取リ濕室内ニ置ク時ハ菌絲盛ンニ蔓延シ其二日或ハ三日後ニシテ或個所ニ白色綿狀ノ塊ヲ形成ス之レ菌絲ノ一部膨シク分枝シ且ツ普通ノモノヨリ著シキ太ク漸次密ニ錯綜シテ菌核ヲ形成シ始メタルモノナリ四日又ハ五日目ニ至リテ漸次褐色ニ變ジ猶暗褐色トナリ一ノ固形體トナル之レ老成セル菌核ナリ表面粗ニシテ扁圓狀(饅頭狀)形、圓狀、卵狀、楕圓狀、長楕圓狀或ハ融合狀等ニシテ形一定セズ普通圓狀ナルヲ常トス裏面即チ寄主ニ附着セル部分ヲ見ルニ總テ凹陷ス而シテ一葉上多クトモ四五粒ヲ形成スルニ過ギズ表面ニ少ク裏面ニ多シ大サ普通一－三ミ、メ、ノ直徑アルモ〇・五－八×〇・五－三ミ、メ、ノ大サアリ之レガ斷面ヲ作リ其内部ヲ見ルニ外部ノ色彩ト全ク同樣ニシテ異ルコトナシ但シ乾燥セザル場合ニハ黑褐色ニ見ユ更ニ薄片ヲ作リテ鏡下ニ窺ヘバ二面ニ組織ヲナシ外皮心髓ノ別ナク細胞膜ハ褐色ニシテ内ニ無色顆粒狀ノ微細ナル含有物ヲ容ル外皮ニ於ケル細胞ハ比較的小形ニシテ内部ニ於ケルモノハ大形ナリ普通九－二五μノ直徑アリ其耐久力ニ就テハ未ダ充分ノ確實ヲ得ザルモ一ケ年間生存スルコトハ實驗ニヨリテ明カナリ又乾所ニ生ジタルモノハ濕室内ニ於テ容易ニ發芽セシムルヲ得

子實層、子實層ハ被害及無被害ニシテ菌絲ノ蔓延セル特殊ノ部分ニ形成セラル即チ莖、葉ノ裏面又ハ葉柄、花梗等

Hypoclnus Sasakii Shirai.

佐々木忠次郎－樟害蟲調査報告豫報（一九〇六）

白井光太郎－樟苗白絹病ニ就テ（植物學雜誌第二十卷第二百三十九號）（一九〇六）

佐々木忠次郎－臺灣樟樹害蟲調査第一回報告（一九〇七）

佐々木忠次郎－樟害蟲調査第二回報告（一九〇七）

澤田兼吉－樟白絹病ニ就テ（臺灣農事報第四十九號）（一九一〇）

出田新－日本植物病理學六〇三頁（一九一一）

Syn. *Sclerotium Oryzae* Catt.

吉野毅一－樟菌核病及其豫防法（新農報第九十三號）（一九〇七）

Syn. *Sclerotium* Sp.

Wakker et Went－De Ziekten van het Suikerriet op Java. p. 134. Pl. XVI, 1898. Krüger－Das Zuckerrohr und seine Kultur. p. 443. Pl. XII., 1899.

吉野毅一－九州地方粟ノ寄生菌ニ依ッテ起ル病害短報（植物學雜誌第二百三十七號）（一九〇六）

川上瀧彌－甘蔗病害論六八頁（一九〇八）

出田新－日本植物病理學三四三頁（一九〇九）

Syn. *Sclerotium irregulare* Miyake.

原攝祐－稻菌核病（農業國第五卷第三號）（一九一一）

菌絲ハ蜘蛛巢狀ニシテ疎ニ蔓延シ兩叉分枝シテ隔膜ヲ有シ最モ新シキモノニアリテハ光線ヲ屈折セシメ漸次老成スルニ從ヒ內ニ多クノ無色ナル顆粒物ヲ含ミ更ニ空胞ヲ作ルモノアリ初メ白色ニシテ老成セルモノハ褐色ニ變ス其生長一晝夜ニシテ約一－二セ、メ、ノ長サトナルモ其境遇宜シキヲ得タル時ハ優ニ四－五セ、メ、ニ達スルコトアリ

見シ加之ナラズ他ニ多クノ植物ニモ寄生スルコト及子實ヲ數多ノ植物ノ上ニ發見シ白井博士ノ說ク所益々確實ナルヲ信ゼリ。

二、病徵

本病菌ガ侵害スル病徵ハ植物ノ種類ニヨリテ幾分ノ差ヲ生ズルモ一般ニ云ヘバ重ニ葉ヲ侵シテ熱湯ヲ注加シタル如キ觀ヲ呈シ悉ク枯葉セシメ莖其他ノ堅キ部分ハ侵スコト稀ナリ樟苗ニ於テハ一年生乃至三四年生ノ苗木高サ三四尺ニ達スルモノニ至ルマデ此害ヲ受ケ葉ハ悉ク枯死落下ス初メ被害葉ハ熱湯ヲ注ギタル如ク帶暗色ナル不規則ナル病斑ヲ生ジ日ヲ經ルニ從ヒ褐色トナリ猶褪色シテ灰色ニ變ズ漸次範圍ヲ廣メツヽ遂ニ乾枯落葉セシム菌絲ハ初メ莖ヲ傳フテ上登スルモノナレバ先ヅ下葉ヨリ侵シテ上葉ニ及ボシ又相隣接スル葉ニ傳染シ苗ノ密生スル所ニ於テハ殊ニ激甚ニシテ數十ノ苗ハ悉ク落葉シ圃場ノ缺斑ヲ生ズルニ至ル斯ノ如キ場合ニ於テハ二三葉褐色ナル綿狀物ニヨリテ結付ケラレ附着スルモノアルヲ認ムベシ之レ本病ノ特徵ノ一ナリ斯ク葉皆落下シ枯死セル如ク見ユルモ莖ハ猶生活シテ病菌ノ勢力衰ヘタル時再ビ嫩葉ヲ發シテ原狀態ニ復スルコアルモ健全株ニ比スレバ被害株ハ一時生長ヲ阻害セラレタル爲メ明カニ生長上ノ一段ヲ作リ翌年ニ至リテ猶明瞭ナリ加之ナラズ再ビ病菌ノ侵ス所トナリテ比較ノ價値ナキニ至ル又被害葉上ニ注視スレバ丸藥大暗褐色扁圓狀乃至融合狀ノ不規則ナル塊ヲ發見スベシ之レ其菌核ニシテ一時休眠ノ狀態トナリ永ク其生活力ヲ保持シ適當ノ濕氣ト溫度トニヨリ發芽シ再ビ菌絲トナル又稀ニ莖及葉裏ニ微細ナル灰白色ノ粉末ヲ布キタル如ク微カニ灰白色ニ見ユル子實層ヲ發見スベシ

樟桑等ノ如キモノニアリテハ如斯ナルモ菜豆、豇豆、甕菜等ノ如キモノニアリテハ葉皆腐敗シ從ツテ莖ノ枯死ヲ來ス又甘蔗、粟、稻等ノ如キ禾本科植物ニアリテハ葉鞘及葉ヲ侵シ雲狀又ハ虎斑狀ノ病斑ヲ生ジ頂端ヲ侵ス時ハ生長ヲ甚シク妨害ス子實層ハ禾本科植物上ハ比較的少ナク菜豆、豇豆、小豆、甕菜等ノ如キ植物上ニハ常ニ發見シ得ベシ卽チ普通葉柄、莖及花梗上ニ生ズ。

三、病原菌

	Scl. Oryzae	*Scl. Sp.*（甘蔗）	*Scl. irregulare*	*Hyp. Sasakii*
菌核ノ形狀	球形	球狀、融合狀、不規則	球形、卵形、楕圓形不規則	球狀、卵狀、楕圓狀融合狀、不規則
菌核ノ大サ	○・一—○・五ミリメートル	芥子大	一—六×一—三ミリメートル	○・五—八×○・五—三ミリメートル
菌核ノ下面	凸形	凹	—	凹
菌核ノ外部色彩	黑色	褐色	暗褐色	暗褐色
同內部色彩	白色	褐色	色黑	暗褐色
同組織	組織ヲナサズ	組織ヲナス褐色ニシテ微細ナル粒狀含有物ヲ容ル	組織ヲナス	組織ヲナス褐色ニシテ微細ナル顆粒物ヲ容ル
菌核ノ內部ヲ構成スル細胞	無色	—	—	

Sclerotium Oryzae CATT. 菌ノ菌核ハ球形、黑色極メテ小形且ツ內部白色ニシテ組織ヲナサヾル等ハ全ク區別シ得ベキ點ニシテ吉野氏ノ記スル所ノモノハ之レト別種ナルコトハ火ヲ見ルヨリモ明カナリ又甘蔗上ノ *Sclerotium* Sp. 菌ハ頗ル近似ノモノニシテ其圖版ヲ見ルニ全ク樟大粒白絹病菌ガ甘蔗ヲ侵シタルモノト全ク符合ス余ハ之レヲ同種ナリト認ム又 *Sclerotium irregulare* MIYAKE. 菌ハ記載文不完全ニシテ其總テヲ知リ得ザレドモ其形狀大サ表面ノ色彩全ク符合シ內部ノ色彩ハ濕氣ヲ帶ブルモノハ濃色ニシテ黑色ナリト認ムルモノアルベシ而シテ嘗テ西田藤次氏ノ厚意ニヨリテ得タル九州熊本產稻ノ菌核ヲ檢スルモ之レト符合シ又其他ノ點ニ就テモ樟大粒白絹病菌ノ菌核ト一致ス卽チ同種ナリト認ム之レヲ要スルニ稻ノ菌核病菌（*Sclerotium irregulare* MIYAKE.）及甘蔗ノ菌核病一名甘蔗ノ虎斑病菌（*Sclerotium* Sp.）ハ樟大粒白絹病菌 *Hypochnus Sasakii* SHIRAI. ノ同物異名ナリ而シテ稻菌核病菌（*Sclerotium Oryzae* CATT.）ハ之レト全ク異レル種類ナリ

此子實ニ就テハ余ハ二年間注意搜索シテ樟苗上ニ發見シ得ザリシガ四十四年七月九日南投廳林圯埔ニ於テ之レヲ發

又三宅市郎氏ハ稻ノ上ニ新ニ一種ノ菌核病菌ヲ發見シテ *Sclerotium irregulare* MIYAKE. ト命名セルモノアリ原攝祐氏ハ農業國第五卷第三號（明治四十四年）ニ稻菌核病ト題シ *Sclerotium Oryzae* CATT. ヲ記シ序ニ *Sclerotium irregulare* MIYAKE. 菌ノ記載ヲ掲ゲ前菌ト差違スル所ヲ明ニセリ而シテ本菌ハ褐大粒白絹病菌ガ稻ヲ侵シタルト酷似ス。

以上記シ來レル菌類ハ果シテ褐大粒白絹病菌ト同物ナルヤ否ヤニ就テハ玆ニ比較研究セントス

(一)吉野毅一氏ハ本病菌ヲ稻菌核病菌ト同物又ハ稍々差違スル如キモノナリトセリ今 PACCARDO, TORAUER, THÜMEN. 三宅市郎、原攝祐其他ノ諸氏ガナシタル記述及余ガ檢シタル事實ニヨリテ其記載ヲ單簡ニ記スレバ

菌絲ハ白色纖細ニシテ隔膜ヲ有シ多分枝シ稈及葉鞘ノ外部及組織内ヲ迷走シテ腐敗セシム菌核ハ寄主ノ被害部ノ外面及組織内ニ形成セラレ散生又ハ集生シ球形ニシテ表面黑色平滑稍々光澤アリテ〇・一—〇・五ミ、メ、ノ直徑アリ之ヲ切斷シ顯微鏡下ニ窺ヘバ外部濃褐色乃至暗褐色ニシテ組織狀ヲナシ厚サ約九—一二〃アリ内部無色ニシテ錯綜セル菌絲ヨリ成リ決シテ組織ヲナサズ其菌絲ハ大抵三—五〃ノ直徑アリ胞子ノ時代ハ未ダ發見セラレズ

(二)WAGNER 及 KRÜGEL 氏ガ甘蔗ノ菌核病ニ就テ記述セシ其要點ヲ擧グレバ

菌絲ハ白色絲狀ニシテ多ク分枝シ又多クノ隔膜ヲ有ス菌絲ノ殊ニ盛ンニ發育スル所アリテ其處ニ菌絲ノ錯綜ニヨリテ成レル菌核ヲ形成ス堅クシテ初メ白色後黃色トナリ更ニ褐色ニ變ジ下方ニ屈曲シ圓狀或ハ相融合セル如キ不規則ナル形トナリ種々ナル大サトナル之レヲ切斷シテ顯微鏡下ニ檢スレバ組織ヲナシ細胞膜ハ褐色ニシテ細カキ粒狀含有物ヲ含ム而シテ外皮細胞ト心髓細胞トハ區別ナシ

(三)原攝祐氏ガ稻ヲ侵害スル菌核病菌 *Sclerotium irregulare* MIYAKE. ニ就テナシタル記載ヲ轉寫スルニ

菌絲ハ被害部ヲ迷走シ白色ヲ呈ス菌核ハ不規則ニシテ稍々球形、卵形又ハ楕圓形ニシテ暗褐色ヲ呈シ内部ハ黑色ナリ大サ種々ニシテ長サ一—六×一—三ミ、メ、アリ。

此等ノ三者ハ病徵相類似スルモノニシテ其區別スベキ菌核ニ就テ左表上ニ現ハシ比較セン

リテ新名ヲ與ヘラレタルヲ始メトス而シテ佐々木博士ハ此記述ヲ樟害蟲調査報告豫報第二號ニ發表セラレ猶臺灣ニ於テ臺北、龍眼林、及頭圍ニ於テ採集シ明治四十年二月臺灣樟樹害蟲調査第一回報告及同年三月樟樹ノ害蟲調査第二回報告ニ揭載セラレタリ是ヨリ先明治三十九年十月吉野敬一氏ハ同菌ヲ新農報第九十三號ニ樟菌核病及其豫防法ナル題目ノ下ニ記載シテ曰ク此菌核病ノ原菌ニハ未ダ其胞子ヲ發見セズ唯單ニ菌絲相聚合シテ菌核ヲ形成スルノミニシテ其菌核ヲ土壤中ニ播下シ置クモ胞子形成ノ器管ヲ顯ハサズ只菌核ヨリ直チニ菌絲ヲ發スルモノナリ而シテ麥、粟、かもぢぐさ、かやつりぐさ、めひぢは、すげ等ノ植物ヲモ侵害シ猶稻ノ菌核病菌 *Sclerotium Oryzae* Catt. ト同物ナリトセリ又同氏ハ明治三十九年十月植物學雜誌第二十卷第二百三十七號ニ九州地方粟ノ寄生菌ニ依ツテ起ル病害短報ト題シ其五粟菌核病ノ條ニ其病原菌ヲ *Sclerotium* Sp. トナシ稻菌核病菌 *Sclerotium Oryzae* Catt. トハ稍異ナルモノヽ如キモ未ダ明カナラズトシ猶稻、かもぢぐさ、かやつりぐさ、めひぢは、大豆、小豆、豇豆、牛蒡、樟等ノ植物ニモ寄生スルヲ記シ佐々木博士ハ（長崎縣ニ於テ採集セラレタル樟葉上ノ本病菌ヲ白井博士ハ *Hypochnus* 屬ノ種類ト鑑定セラレタルハ之レ唯外觀ノ稍々類似スル所アルヲ以テ斯ク鑑定セラレタルモノナルベシト追記セリ其後白井博士ハ植物學雜誌第二百三十九號（明治三十九年十二月發行）及農業世界ニ吉野氏ガ爲セル論ヲ反駁シ被害葉及子實層等ヲ畫キ猶檐子囊ノ太サハ普通七・八〃アルコトヲ記シ正シク白絹病菌屬ニ納ムベキモノナルコトヲ立證セリ

又西曆一千八百九十八年 Wakker 及 Went 氏ハ其著 De Ziekten van het Suikerriet op Java. p. 134. Pl. XVI. ニ甘蔗ノ菌卽チ *Sclerotium* Sp. 菌ニ起因スル病害ヲ記セリ又一千八百九十九年 Krüger 氏ハ同シク爪哇ニ於ケル甘蔗菌核病ヲ Das Zuckerrohr und Seine Kultur. p. 443. Pl. XII. ニ記載シ他ニわせをばな（*Saccharum spontaneum* L.）つのあいあし（*Rottboelia exaltata* L.）, *Saccharum Sollcudeli* Kobus. 及他ノ種類ニモ寄生シ得ルコトヲ記シ猶 Wakker 氏ハくずうこん（Arrowroot 卽チ *Maranta arundinacea* L.）ニモ發病セシムルモノナリト記セリ而シテ此病害ハ樟大粒白絹病菌ガ甘蔗ヲ侵シタル場合ト頗ル相似タリ

種々ノ稚樹例ヘバつゝじ、あじさゐ、ゆづりは、ひさかき、つばき、きふじ等先ヅ發生シ次テ尙其保護下ニ他ノ稚樹ヲ養成シテ最後ニ森林ヲナシ鬱閉ヲ保ツニ到ルモノハ卽チ混交林帶ノ諸林木ナリ。

第五、燒野帶、

火口原、中央火山、及ビ外輪山ノ東北、西南ノ兩山腹ハ火山活働ノ結果現今マデ全ク裸出シ植物生育上最不適當ナル燒野ヲナス、卽チ砂原又ハ岩野ニシテ全ク不毛ノ狀態ナリ。サレバ此帶ハ前述ノやしやぶし、はこねうつぎ帶ヨリ一層新時代ニシテ此ニ植物生育ノ先驅ヲナシ次デやしやぶし、はこねうつぎ帶タラシムルモノハいたどり、みやまくろすげ?ノ二種ナリ。溶岩塊ノ上ニハ藍藻類、細菌類、地衣類等多カルベキモ蘚類ニハ尙みやまなごけ《一名しもふりごけ Racomitrium hypnoides, Lindb 岡村周諦君檢定》アリテ盛ニ風化ニ力ヲ添ヘツヽアリ。（未完）

臺灣ニ於ケル作物ノ白絹病（承前）

澤田兼吉

Sawada, K.:—*Hypochnus* on Cultivated Plants in Formosa. (Continued from p. 138).

第三章　樟大粒白絹病

一、總說

樟大粒白絹病トハ *Hypochnus Sasakii* Shirai. 菌ガ侵害ニヨレル樟苗ノ疾病ニシテ以前單ニ樟白絹病トシテ知ラレタルモノナリ當時樟ヲ侵害スル白絹病菌ハ唯一種ノミナリシヲ以テ別ニ差支ナカリシモ余ハ本島ニ於テ調査ノ結果三種ノ白絹病菌ヲ知リ得タレバ玆ニ其各々ヲ區別スルノ必要ヲ生ジ之レヲ農學士川上瀧彌氏ト共ニ命名セリ本病菌ハ明治三十八年八月三十一日理學博士佐々木忠次郎氏長崎縣上長崎村字田上ニ於テ之レヲ採集シ其後理學博士白井光太郎氏審査ノ結果白絹病菌屬（*Hypochnus*）ニ納ムベキモノナリトシ且ツ此菌ニ緣故深キ佐々木氏ノ姓ヲ採

ヲ被リシナラン現今ハ少クシテ點生ノ狀ヲナシ其稚樹ハ他林木ノ保護下ニ多ク發生シテ漸次舊勢ヲ挽回セントシツツアルガ如シ。

尙本帶ノ林木ニハあかめがしは、ゑのき、まてばしひ、かしは、やしやぶし、あさひかへで、おほやまざくら、みづき、ゑごのき、さんごじゆ等アリ。下木ニハいぬかや、おにしばり、ゆづりは、やなぎいちご、しばやなぎ、ひさかき、つばき、きふぢ、いぬつげ、ささき、もくれいし、かじいちご、もみぢいちご、のいばら、まるばかじいちご、こゞめうつぎ、あぢさゐ、たらのき、かくれみの、あをき、にはとこ、がまづみ、はこねうつぎ、きりしまつゝじ、やぶかうじ、おほばいぼた、いぼた、ねまがりだけ、はこねだけ等アリ。上昇木本ニハさるとりいばら、ていかかづら、きづた、ひめいたび、せんにんさう、ときはあけび、すいかづら等アリ。樹上著生植物ニハのきしのぶ、まめづたアリ又ふうらんモアリト云フ。下草ニハ羊齒類ニおほばゑのもとさう、こもちしだ、べにしだ、ほらしのぶ、ふもとしだ、へらしだヲ主トシ尙みぞしだ、ゑので、いたちしだ、わらび、いぬがんそくアリ、他類ニハゑびね、おほばのうまのすゞぐさ、ひめうづ、おへびいちご、ゆきのした、あしたば、こけおとぎりヲ主トシ他ニひあふぎ、うらしまさう、ところ、かんすげ、あをすげ、ぎしぎし、なつとうだい、あきからまつ、なづな、たねつけばな、たちつぼすみれ、はごべ、のみのふすま、きじむしろ、へびいちご、ながじらみ、うまのみつば、こおにたびらこ、おにたびらこ、のあざみ、よもぎ、たんぽゝ、おほばこ、たびらこ、おどりこさう、やへむぐら等アリ。

第四、やしやぶし、はこねうつぎ帶、

本帶ハ外輪山東南山腹ニテハ四百—六百米突間西北ニテハ五百米突以上ヨリ外輪山壁ニ至ル間ヲ占有シ尙燒野ノ緣邊ニ沿ヒ三百—二百米突ノ高サマデ降下セリ。皆やしやぶし、はこねうつぎノ樹狀灌木林ヲ以テ被ル。此帶域ニテハ火山拗出物又ハ噴出物ノ分解未ダ不十分ナルヲ以テ立地ノ關係惡ク土地ハ痔惡ニシテ日光ハ強烈ナリサレバカゝル裸地ニ先ヅ生ルモノハ強キ陽樹ニシテ此劣等ナル原的ノ土質ニ耐ヘ得ルモノナラザル可カラズ、之ヲ以テ森林形成ノ先驅トシテ以上二者ノミ之ヲ占有セシモノナリ。此二木ガ林叢ヲ形成シ土地亦分解漸ク進渉スルヤ其保護下ニ

たいとごめ、つはぶき、わだん、そなれむぐら、よしたけ等海岸ノ岩上又ハ砂地ニ生ジはまおもと、かものはし、はまぼうふう、ぼだんぼうふう、いそぎく等ハ海岸ノ砂地ヲ撰ンデ生育ス。

第二、人工林帶、

人工林ハ裾野ノ發達セル地方ノ村落附近ニ存在シ海岸林ニ次ギ東南方面ハ略百米突、西北方面ハ略二百米突ノ高サマデ分布セリ。裾野ハ元來次ノ混交林ノ下部ナリシガ人工ニテ伐採サレ其跡地ニ殖林セルモノナリ。造林セル人工林ハ杉、檜、樟アリト雖モ其最主要ナルモノハやしやぶし、おほやまざくら（一名おほしまざくら、たきざくら）、みづきノ三林木ナリ、樟ハ近年殖林セルモノナレバ著シカラズ、杉檜林ハ點々塊狀ノ小林ヲナスガ之ヲ除クトキハ皆三主要林木ノ混交林ナリ、大島ノ林業ハ主ニ此三林木ノ薪炭林作業ニシテみづき材ノミハ小細工用トセラル、其產出額みづきノ三尺材モ合スル時ハ以前全島ニテ拾萬圓ナリシガ現今モ七萬圓ヲ降ラズト云フ。其殖林ハ二月末ヨリ三月上旬中ニ播種シ床替ヲナシツヽ三年間苗圃ニ仕立テ四年生ノ苗ヲ三月中ニ山地又ハ畠地ニ殖ユ、伐期ハ十七、八年ヨリ二十年ニシテみづきノミハ十二、三年ナリ、之ヲ伐採スレバ山地ハ直ニ殖林シ畠地ハ四五年間農作物ヲ作リ其後ニ殖林ス、然レドモ畠地モ其路傍緣邊等ハ盛ニ蘗芽林ヲ仕立ツ。之等三主要林木ノ源ハ元來同島ニ野生セル林木ヨリ撰擇セシモノナルコトハ次ノ天然林中ニ時ニ其老樹ヲ生ゼルヲ見テモ推察シ得ベシ。伐採跡地ノ手入ハ周到ナラザレバ此地方盛ニはこねだけノ侵入スルヲ以テ注意セザル可カラズ。

第三、混交林帶

混交林ハ常綠濶葉樹ト落葉濶葉樹稀ニ針葉樹ヲモ混ゼル天然林ナリ、元來黑松林ニ次ギ山腹踈野ノ最モ廣大ナル部分ヲ占有セシモノナレドモ其下部ハ伐採サレ又殖林サレシ處多ク現今ハ東南山腹ニテハ百米突ヨリ四百米突西北山腹ニテハ二百米突ヨリ五百米突間ニ擴リ下方ハ又人工林ト相交錯シテ暫其帶中ニ入ル。

本帶ノ主林木ハすだじひ、たぶのき、しろだも、やぶにくけい、いぬまき、ニシテ就中最主要ナルハすだじひトいぬまきナリ、サレバ純原生林時代ニハすだじひハ本帶ノ全部ニいぬまきハ其下半ニ於テ著シキ森林ヲナシ、ガ伐採

第一節　植物區系地理

(甲)　直立節制上ヨリ見ル植物分布、

大島ニ於ケル植物ノ垂直分布ハ之ヲ左ノ五帶ニ區分スルコトヲ得ベシ而之等區分帶ヲナス作因ハ大島ハ僅ニ最高點七五五米突ノ低山ナルヲ以テ溫度雨量等ニ非ズシテ第一火山力(Hilyzium)第二人力(Bretium)ニヨレル森林伐採(Ecballium)及ビ殖林(Cammium)第三海岸潮風ノ三ナリ。

一、黑松帶（海岸黑松林）、
二、人工林帶（新炭林）、
三、混交林帶（天然常綠落葉濶葉樹林）、
四、樹狀灌木帶（ヤシヤブシ、ハコネウツギ林）、
五、焼野帶（莎草、虎杖帶）。

第一、黑松帶

海岸ハ潮風常ニ强シサレバ獨リ之ヲ好ム黑松ハ此ニ細長ナル帶ヲナシテ單純林ヲナス、此松ハ海岸ノ絶壁ニモ生ジ通例ノ土質ハ勿論海岸砂地ニモ其稚樹密生スルヲ見ル、黑松林ニ生ル他ノ主ナル林木ハびやくしんトとべらニシテ下木ニハはひびやくしん、おほばぐみ、かじいちご、まるばしやりんばい、はまごう等アリ、草本ニハはまほらしのぶ、おにやぶそてつ、らせいたさう、はまきけまん、

月次	溫度			風（日數）			雨		曇天日數	平均濕度
	最低平均	溫度平均	最高平均	北	南	西	量	日數		
I	5.3	8.1	12.1	21		7	58.6	8	8	69
II	4.6	7.5	11.6	17		10	42.8		4	68
III	7.0	10.0	14.2	20		6	126.9		8	72
IV	11.4	14.3	18.1	22	8		154.8		8	78
V	14.9	17.5	20.9	20	10		149.7		14	81
VI	18.0	20.3	23.5	11	19		192.3		15	87
VII	21.3	23.4	26.4	16	13		176.8		13	89
VIII	23.1	25.4	29.0	16	12		124.5	6	8	86
IX	20.5	23.1	26.7	20	9		204.2		14	81
X	16.2	18.8	22.8	29			133.1	10	10	75
XI	11.7	14.4	18.4	20			72.1	12	4	72
XII	7.3	10.2	14.1	18			57.4		10	69
年	13.4	16.1	19.8	216			1493.2		87	77

表面ハ燒野及ビ海岸ノ一部ニ礫土砂土等アレモ他ハ壚母ノ原層アリテ之ヲ被覆ス山體ノ形狀ハ最高點七五五米突ヲ有スル平キ大鈍圓錐ニシテ多クハ裾野ノ發達良好ナリ周圍ハ十里餘アリ。平均溫度ハ攝氏七—廿四度內外ノ間ニシテ雨量ハ全年一〇〇〇—一四〇〇ミ、メ、ニ達シ北風最モ盛ナリ。然ラバ此大島ニ於テ現今植物區系ノ性質、狀況及ビ其由來ハ如何又現今ノ植物群落ノ狀況及ビ之ガ變遷消長ハ如何ナラン。

土ナリ、又海岸砂濱ハ鹽分ヲ含ム砂土ナリ、サレバ之等ノ土質ハ通常保水力小ニ日光强烈ニ溫度高ク水分ノ蒸散盛ニ吸肥力小ニ加之晝夜溫度ノ差頗ル大ナリ。然レドモ山腹以下裾野ハ壚母ノ厚層アリテ大低壤土又ハ壤質埴土ノ性ヲ有シ或ハ砂質壤土、腐植質壤土ナリ

第五章　植物分布

大島ハ富士火山帶ノ北部ニ位シ比較的新時代ニ舊亞細亞大陸第一緣邊ノ遺物ト見做サル、海底脊梁ノ北端ニアリ、其噴出時代ハ早クトモ第三紀最新世以來ニシテ有史以來屢活働シ現今モ活火山ノ狀態ニアリ、其之ヲ構成スル岩石ハ玄武岩類似ノ富士岩及ビ其碎片物質ニシテ成層二重式火山ヲナス、山體ノ

士地方ニ於テハ褶曲波ノ大ニ防害セラレ爲メニ富士ノ對曲ヲ生ルニ至レリ此對曲ノ折線ニ噴出セシハ豆南諸島ノ大島云々ト云レタリ。

石井八萬次郎氏[6]ニヨレバ富士火山帶上ニ火山噴出ノ起リタル徵證ハ中世紀ノ末葉カ第三紀ノ初メニアリテ一盛一衰現今マデ連續セシモノナレドモ第三紀時代ヲ最猛烈ナル時期ト認メ第四紀ニ入リテハ衰兆ヲ呈シタルモノト認ム。

石原[4]初太郎氏ニヨレバ第三紀最新世以前ニハ相模、駿河ノ二灣相連リシガ第三紀末葉後ニ此海底地盤陷落シ又ハ破裂セリ爲メニ第三紀最新世中(?)ニ伊豆ノ猫越火山ノ噴出ヲ見洪積世初期ニ伊豆半島他火山ノ噴出ヲ見又伊豆七島中ノ大島、利島、鵜渡根島、新島、神津島等ノ諸火山島ハ一連ヲナシテ半島ノ南方ニ横ル蓋シ之亦海底陷落ニ伴ヘル火山現象ナランカト。

以上三氏ノ說ニ依リ考フレバ大島火山ハ早クトモ第三紀最新世以來漸ク火山體ヲ構成セシモノナルガ如シ。

有史以來大島火山ノ活働ニ就テハ山崎[1]敎授報文、中村[2]敎授報文（寺田、石谷氏トノ共著）ニ審ナリ、本年三月六日以來ノ活働ハ明治十年以後ノ著シキモノニシテ三月十八日十九日兩度ニ登山セシ時ニハ中央火山ノ噴出口內ニ二ケノ活働中心ヲ生ジ之ヨリ盛ニ溶岩碎片ヲ拗出シツヽ二ケノ小圓錐ヲ形成シツヽアルヲ目擊セリ。火山活働ノ狀ハ植物群落ノ形成上ニ多大ノ影響アルモノナリ、大島火山ノ火口原幷ニ東北山腹及ビ西南山腹ノ大燒野原ハ一七七八年三月及ビ九月ニ起リシ大活働ノ結果ナルガ如ク今ヲ去ルコト百三十四年前ノコトナリ。其後又數回ノ活働アリシナランモ此方面山腹一帶ハ此時ヨリ全ク不毛ニシテ現今亦所生植物殆ナシト云テ可ナリ。

第四章　立地（生存上ノ要素）

一、氣候ハ伊豆半島ノ南端長津呂ノ觀測ニ最モ近カル可シト云フ、大島自身ニ於ル觀測ハ完ラザルヲ以テ溫度、降水量、幷ニ濕度等ハ長津呂ニテノ觀測ヲ以テ參考トシ左ノ表ヲナシ其一般ヲ推察セン。

二、土地、大島ハ溶岩ノ露出スルモノ諸處ニ多ケレドモ火口原、外輪山ノ外上部、一七七八年ノ噴火ノ際碎片物質ニ被レタル地方及ビ中央火口丘ノ外部ハ火山灰砂彈礫ヲ以テ被ルヽガ故ニ少部分岩野ヲナセドモ大部分ハ礫土及ビ砂

原ナリ。中央火山ハ扁キ大鈍圓錐形ニシテ火口原ノ中央ヨリハ稍南ニ位シ山腹ハ三十度ノ傾斜ヲナシ頂上ニ噴火口アリ略圓形ニシテ徑七百米突深サ百米突アリ、火口壁ノ最高點ハ東方ニアリテ七五五米突アリ。側火山ハ皆長軸線上ニアリ其內著シキハ西北ノ愛宕山、東南ノ二子山、及岳ノ平山ナリ尙又ヒクボ、外輪缺損部及ビ波浮ハ各爆裂火口ナリト云フ。輻射谷ハ著シキモノナシ。

第三章　地質

大島ノ地體構造ニ關シテハ種々ノ說アリナウマン氏ハ島ノ北部ニ一ケノ舊火山ヲ考ヘ山崎敎授ハ東方ニ一ケノ舊火山ノ存在セルヲ云レ波浮亦一ケノ噴火口トセラル、然レドモ大橋良一[3]氏最近ノ調査ニヨレバ別ニカヽル特別ノ舊火山體ヲ想像セズトモ大島ノ北部東部ノ地形ハ之ヲ說明シ得ル由ナリ、サレバ現今ノ大島火山ハ決シテ肩寄火山ノ如キモノニハ非ル可シ。

大稿氏[3]ニヨレバ大島火山ヲ構成セル岩石ハ玄武岩ニ類似セル富士式溶岩ニシテ古期ニ噴出セルモノハ撒攬石ヲ含有シ新期ノモノハ含有セズト云ヒ、又外輪山構成順序ハ最初氏ノ所謂筆石溶岩及ビ岡田溶岩ヲ噴出シ其上ニ數十回ノ黑色溶岩ノ噴出アリ次デ屢碎片物質及ビ撒攬石ヲ含マザル灰色溶岩ヲ噴出シ以テ外輪山ヲ構成セリ、其後噴火口壁ノ陷落アリテ更ニ其內ニ撒攬石ヲ含マザル三原溶岩ヲ噴出シ以テ中央火口丘ヲ作ルニ至レリト云フ、然シテ現今ハ外輪山々腹以下ハローム層ニ被レ上部及ビ火口原、中央火口丘等ハ碎片物質ヲ以テ被レタリ、大島火山ノ基底地質及ビ其地體構造ニ就テハ未詳ナルヲ以テ噴出ノ時期亦不明ナレドモ富士火山帶上ニ火山噴出ノ變遷ヲ知ル時ハ其時代ノ如キハ少シク之ヲ推察シ得ベキモノアリ、

福地信世[5]氏ニヨレバ多分中世紀末葉ニ九州ヨリ秩父ニ走ル東西ノ古キ地體アリテ之ガ白堊紀ノ末カ又ハ第三紀ノ初ニ於テ偉大ナル橫壓西北ヨリ來リ此東西ノ地體ヲ褶曲シテ一大褶曲山脈ヲ作リ初メタリ此大褶曲ノ兩側ニ沿フテ多クノ破罅ヲ生ジ幾多ノ火山噴出ヲナセリ然レドモ其火山ハ皆第三紀ノ海底ニ噴キシモノナレバ其第三紀ヲシテ凝灰岩及ビ火山層盤ニ富マシメタリ其後褶曲現象ハ引キ續キ第三紀ノ末紀ニ到リ其極ニ達セリ此時ニ於テ何ノ故ニヤ富

伊豆大島ハカヽル種々ノ問題ノ存在スル地方ノ北端ニ位シ自分ハ此一端ヲ見ルニ過ギザレドモ大島自身ニ於ケル植物分布及ビ植物群落ノ形成等亦興味アルヲ以テ此ニ簡單ニ記シ他人ノ精細ナル調査ヲ期待セント欲ス。

第二章　地文地理

豆南諸島中伊豆七島ノ一群ハ伊豆國ノ東南太平洋上北緯三十三度五十五分ヨリ同三十四度四十八分、東經百三十九度ヨリ百三十九度四十分ノ間ニ羅列シ其島數大小十四ケアリ其内古ク伊豆七島ト稱スルモノハ大島、利島、新島、神津島、三宅島、御藏島、式根島ノ七ケニシテ後世ニハ式根ノ代リニ八丈島ヲ合セリ、

大島ハ七島中ノ最北ニ位シ北緯三十四度四十分ヨリ同四十八分、東經百三十九度二十一分ヨリ廿七分ノ間ニ横リ島形ハ楕圓ニシテ其長軸ハ北々西ヨリ南々東卽チ北方千ヶ崎ヨリ南方ノ波浮港ニ到ル略十四、五粁—十五粁アリ東西ノ短軸ハ略八、五粁アリテ周圍略四十二粁アリ、側面ヨリ見タル島形ハ平キ缺頂鈍圓錐ニシテ其最高點ハ七五五米突ニ過ギズ。海岸線ハ出入多カラズ波浮灣ヲ除キテハ著シキモノナク元村、間伏村ノ海岸砂濱ノ他ハ皆斷崖ニシテ其高サ二十米突内外ナレドモ北方東方ニハ七、八十米突ニ達スル處アリ。近海ノ深サハ北方一五〇〇米突西北一一〇〇米突マデ降下シ其他ハ未詳ナリ。潮流ハ北方千ヶ崎附近ニ於テ最モ速シト云フ。沿岸島嶼ニハ著シキモノナク只東南方ニ筆島ト名ル岩礁アルノミ。

大島ハ一ケノ火山卽チ三原火山ニシテ大體二重式ノ構造ヲナセリ中央火口丘ハ卽チ三原山ニシテ其周圍ニ稍廣大ナル火口原ヲ隔テヽ東北ノ方面缺損シ又全體陷落セル舊火口壁ヲ有スル外輪山トヨリナル。火山外輪ノ裾野ハ海岸ヨリ二百米突ノ高サマデ達シ平均六、七度ノ傾斜ヲ以テ四方ニ緩斜シ北西部ハ殊ニ廣大ナルニ反シ東部ハ地形稍複雜ナルヲ以テ著シカラズ、二百米突以上ハ稍急斜面ヲナシ現今ノ舊火口壁ハ楕圓形ナリ、此殘火口壁ノ西北—東南ノ長徑略三粁、短徑略二粁アリ、ソノ最高隆起點ハ東南ノ三原白石ニシテ七三六、七米突アリ、外輪山ノ東北ハ馬蹄形ヲナシテ缺損シ火口壁無シ此處山腹ヨリ海岸マデ中央火山ノ噴出物ヲ以テ被レ廣大ナル溶岩幷ニ火山灰砂彈礫ノ燒野ヲナス西南山腹亦同樣ナリ。火口原ハ平均六百米突ノ高サアリ平坦ニシテ一部溶岩原ヲナセドモ他ハ全ク不毛ノ砂

植物學雜誌第二十六卷 第三百六號 明治四十五年六月二十日

伊豆大島植物地理略

小泉源一

Koidzumi, G.:—Phytogeography of the volcanic island of Oshima, Prov. Izu, Japan.

第一章 緒言

日本々土ノ富士火山地方即チ南北日本ノ境界邊ヨリ南約十五度東ニ殆一直線ニ長サ略二—三百里ノ海上ニ豆南諸島、小笠原諸島、硫黄列島ノ三群散在ス、北緯二十四度ヨリ三十五度ノ間ニ亘リ熱帶區域ヨリ暖帶北部區域ニ入ル、之等一群ハヒトシク我日本群島ノ內ニシテ其植物地理學的研究ハ肝要ニシテ又趣味アリ即チ服部廣太郎氏ノ小笠原諸島植物地理學的研究ノ如シ、

以上ノ諸島ヨリ尙南ニハ相係連シテ遠クマリアナ群島ノ南端グアム島ノ北緯十三度二十分ニ達ス、之等ハ皆共ニ富士火山帶（此火山帶ノ範圍、意義等ニ就テハ石井八萬次郎氏說ニ從フ）ノ上ニ坐セル火山島ニシテ又洋島ナリ、此ニ於テカ洋島トシテ植物分布學上其研究ノ有益ナルノミナラズ之等一群ノ各部ニ區系ノ比較調査ヲナサバ種々ノ面白キ事項モアラン、

然シテ又之等諸島ヲ載セタル海底ノ脊梁山脈即チ小笠原海嶺ハマリアネン、グアム島ヨリカロリン島ニ到リ此ニ西轉シテ遂ニスンダ島ニ結合シ其太平洋中心ニ向ヘル方面ニハ三大海溝ヲ有セリ、フリードリヒセン氏等ニヨレバ之太古ノ亞細亞大陸ノ第一東緣邊ナルガ如ク其發動期ハ當ニ新時代ナルベシト云ヘリ、又ジュース氏小川敎授ノ二氏ハ小笠原諸島ニ小笠原彎ノ存在ヲ云ヘリ、之ヲ以テ見レバ之等植物區系ノ調査ハ其發展地理學上單ニ洋島トシテノミ處理シ難キニ非ズヤヲ想ハシム、

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○講演

一歐洲旅行雜話　理學博士　柴田桂太君

一古代顯微鏡（守田白井兩君出品）　理學博士　白井光太郎君說明

先ヅ柴田氏ハ四十三年四月上旬西伯利亞經由渡歐ヨリ述ベラル、渡歐第一ノ滯在地ハ獨都伯林ニシテ、次ニ白都ブルセッルニ開催セラレタル第二回萬國植物學會ニ列席セラレ、閉會後伯林附近ノダーレム植物園ノ開園式ニ臨マル（該園内ノ地理學的分類園ヲ紹介セリ。）氏ハ尙ホ伯林ニ滯在スル事半年、次ニペッファー教授指導ノ下ニライプチッヒニ滯留スル事一年、研究ノ餘暇同教室ノ諸氏ト行ヲ共ニセラレシエルツゲビルゲ地方ノ旅行談ヲ述ベ、次ニフランクフォルトノ博物館及ビ遊園、（ミュンヘン）ノ大學ノ植物學教室ヲ訪問セラレ、次ニ墺國（ウヰン）ノ大學ノ植物學教室ニモーリッシ、（リヒター）等ノ諸教授ヲ問ヒ、又同地ノ生態學研究所ノ設備ノ概略ヲ紹介シ、尙ホ同地ノ博物館ニ就テ一言セラレタリ。次ニ英國劍橋大學ノ植物學教室ヲ參觀セラレ、去ツテ東方和蘭ニ渡リ、デルフトニバイエリンク教授ヲ、アムステルダムニドゥ・フリース教授ヲ問ヒ、其他歐洲諸地ニ遊ビ、植物園或ハ博物館ヲ遊覽シ、植物學教室或ハ研究所ヲ問ヒ、或ハ碩學ト談ジ、其際ノ觀察或ハ感想ヲ述ベラレ、尙ホ寫眞、繪葉書等ヲ供示セラレタリ。

次ニ述ベラレシ白井氏ノ講演ハ次號ニ揭載セラルベキヲ以テ玆ニ略ス。

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岡本省三

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○轉居

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岐阜縣惠那郡川上村　原攝祐
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金五參八、八六九也　振替貯金
金五九、〇九五也　現金

明治四十四年度收支決算右ノ如クニ付報告候也

四月廿日　會計幹事

○圖書報告（自明治四十四年四月廿一日至明治四十五年四月二十日）

寄贈及ビ交換ニヨリ本會ニ送附シ來リタル圖書左ノ如シ。

一、寄贈及ビ交換ノ雜誌（年報、一覽ヲモ含ム。）十八

新寄贈雜誌、*八新交換雜誌）

內國發行ノ部

醫事月報第五卷第四號ー第二號第六卷第一號ー第三號
校友會雜誌　第五六號ー第五九號
學士會月報　第二七八號ー第二八九號

死亡會員

池田耕作、後藤末吉、藥學博士　下山順一郎

二、雜誌配布ニ關スル件（一箇月配布數）

內地郵便稅ニ依ルモノ（內地、韓國、支那）

納本　四部（二冊　二冊　內務省　郵便局）

寄贈　四十七部

交換　二十七部

會員配布數　二百二十三部（三月現在）

賣却　五百二十七部

小計　八百二十八部

外國郵便稅則ニ依ル分

交換　五十八部

寄贈　四十三部

賣却　十八部

在外會員配布　六部

小計　百二十五部

累計　九百五十三部

海外配布國別（但シ會員ヲ省ク）

	交換	寄贈	賣却（交換品不著ノタメ配布中止）	配布部數合計
亞細亞 印度				
馬來	一			一
爪哇				
フヰリッピン	一			一

	亞弗利加	歐羅巴																濠洲	亞米利加			亞細亞	
	獨逸領東部亞弗利加	獨逸	オーストリーハンガリー	英國	佛國	伊太利	瑞西	露國	瑞典	白耳義	和蘭	丁抹	諾威	葡萄牙	シドニー	加奈太	墨西哥	亞然丁	烏爾瓜	北米合衆國	印度	馬來	爪哇	フヰリッピン
總計	一	五	五	二	四	五	一	五	三	一	一	一	二			一	一	一		一〇六				
五八		八		八	三	五	二	一	一	二										九				
四三		二																						
一七ヶ所一八部		一		二ヶ所三部	一															一〇				
三																								
一〇八ヶ所一〇九部	一	一五	五	一二ヶ所一三部	八	一〇	二	七	二	三	二	一	二	一		二	一	一		三五				

○印ハ新交換一部ヲ示ス

明治四十四年度（自明治四十四年四月二十一日至明治四十五年四月二十日）會計決算報告

一、收入ノ部

金四五九、九八六也

內譯

◎雜　報

○牧野富太郎氏ノ任命

會員牧野富太郎氏ハ今般東京帝國大學理科大學講師ニ任命セラレタリ。

○柴田博士ノ歸朝及ビ任命

會員理學博士柴田桂太氏ハ歐洲ニ留學中ノ所三月末日歸朝、今般東京帝國大學理科大學助教授ニ任命セラレタリ。

○池野、平瀨兩氏ノ名譽

會員理學博士池野成一郎氏ハ蘚鐵ノ精蟲發見ノ功ニヨリ會員平瀨作五郎氏ハ公孫樹ノ精蟲發見ノ功ニヨリ兩氏ハ本月十二日帝國學士院ニ於テ恩賜賞ヲ授與セラレタリ。

◎東京植物學會錄事

○總會記事

明治四十五年四月廿七日午後一時半ヨリ小石川植物園内植物學教室ニ於テ本會定期總會ヲ開ク諸事務報告ヲ以テ開始スベキ所柴田博士ノ都合ニヨリ順序ヲ變更シ博士ノ講演ヨリ始ム、講演後直ニ本會諸事務報告ニ移ル、鈴木圖書幹事、桑田庶務幹事（外國ニ關スル件）、小松庶務幹事（内地ニ關スル件）及ビ小泉會計幹事ノ會務報告アリ。次ニ藤井幹事長ハ役員改選規則改正ノ件ニ付キ議事ヲ提出シ、右決議後直ニ役員改選ノ報告アリ。次ニ白井博士ノ講演ニ移リ右終ツテ茶菓ヲ供シ、午後五時閉會ス、來會者三十餘名。

庶務報告自明治四十四年四月至同　四十五年三月

一、會員ニ關スル件

入會者	十六人
退會者	十五人
死亡者	三人
除名	八人
（差引	十人減員）
現在會員	四百一三人

内

會則第七條ニ依リ終身會員トナラレシモノ	一人
會則第十五條ニ依リ雜誌發送中止ノモノ	百八十人
會則第十五條ニ依リ除名ニ准スベキモノ	百〇六人

終身會員

角倉　邦彥、武田　久吉、中井猛之進、木村彥右衛門

宮川　漁男、德川義親

Iwa-matsu. イハマツ
Iwa-goke. イハゴケ
Hab. Tanusiı; Nagasuki; Iwatake; Togakusi; Hakone; Wasitsusu; Yahazuyama; Tsusima.

Var. Veitchii, Bak. H. 87.
Syn. S. Veitchii, MacNab.; F. S. II. 200.

斯ク對照スルトキハ我邦ニテ如何ニ此方面ノ知識ガ長足ノ進歩ヲナシタルカヲ認ムベク之レト同時ニ名鑑ノ體裁ガ如何ナルカヲ知リ得ベシ卽我版圖內ノ各種ノ植物ニ就キテ其學名ヲ擧ゲテ出典ヲ詳ニシ又種々ノ學問上ノ異名ヲ列記シ而シテ通俗ノ名稱卽日本名竝ニ日本名ノ異名ニ及ビ且其產地ヲ列擧シアリ尙又變種、異形アルモノハ之ヲモ漏ラスコトナシ、本書ニ比スレバ水谷氏ノ著書ハ極メテ簡單ナルモ尙且伊藤圭介博士ハ博物會誌（錦窩翁九十賀壽記念發行）中ニ物品識名ニ關シテ『衙便ノ好書ニシテ今ニ至ルマデ大ニ諸國ニ行ハル』ト評セラル若シ伊藤博士ニシテ今日完成セル圖鑑ヲ見ルニ及バンカ其激賞セラルヽコト如何ゾヤ

余ハ本書ノ完成ヲ祝シ併セテ本書ノ恩惠ヲ謝スルト同時ニ植物學專攻以外ノ人ニシテ此書ヲ使用セントスル人ノ爲ニ一言ヲ附記セントス看者請フ褒否ヲ怨セヨ

一、本書ハエングレル（Engler）式ノ分類法ニ遵ヒ植物名ヲ排列ス而シテ各分科中ニ於テハ學名ヲABC順ニ排列ス且完全ナル日本名ノ索引アルヲ以テ容易ニ所要ノ植物ノ學名產地等ヲ見出シ得ベシ

一、本書ハ帝國內ノ植物ニ關スト雖學名ノミアリテ和名ナキモノアリ此種ノ植物ノ多クハ西人ガ其書ニ記シテ我邦ニ產スルコトヲ報告セルモノニシテ其標本ハ却テ我邦ニ存セズ究竟今尙未詳ニ屬スルモノ多シ

一、本書產地ヲ記スルニ方リ Nippon（日本）トアルハ四國九州北海道等ヲ含マズ我本島ノミヲ指スモノナリ（此ノ如ク「日本」ノ語ヲ使用スルハ殆ド慣例トナリ居レドモ同一語ニシテ廣狹兩義アルハ其汎意ニ注意セザル可ラズ）。

（松田定久）

○ロツス氏『中歐北歐產蟲癭誌』

Ross, H.:–Die Pflanzengallen Mittel-und Nordeuropas ihre Erreger u. Biologie u. Bestimmungstabellen. mit 233 Fig. auf 10 Tafeln u. 24 Abbild. im Text. 350S. 1911. Jena, Verlag von Gustav Fischer. 9*M*.

最初ノ八十頁ニ蟲癭ノ形態、生理、生態等ノ大畧ヲ說述シ次ニ北歐、中歐ニ產スル蟲癭二千百〇一種ヲ其著生スル植物名、著生スル局部、其ノ形態等ヨリ索引判定シ得ル檢索表ヲ記シ卷末ニ二百三十三箇ノ精密ナル繪ヲ圖版トシテ附ス。

（I. Y.）

纖細ニテ長ク一mmニ達シ巾二、五㍉アリ子柄ハ多少膠質物ヲ以テ圍繞セラルヽヲ以テ若シ春季雨天ニ際會スルトキハ水ヲ吸收シ頗ル膨大シテ木耳狀ヲナス夏胞子ハ同ジク幹上ニ生ズレドモ銹胞子世代ヲ明ニセズ尙ホ日本ニテすゞ屬ニ寄生スルモノハ次ノ如シ

P. Kusanoi, Diet var *ajuma* Kusa.
Uredo inflexa Iro

◎新刊紹介

松村博士著帝國植物名鑑 (J. Matsumura; Index Plantarum Japonicarum. 丸善發行)

此書ハ全部三冊ヨリ成ル今度下卷ノ後編出版セラレタルニ因リテ完成セリ本書ハ日本植物ノ分類ニ從事スル者ニハ座右ニ缺ク可ラザルモノニシテ其完成ヲ見ルハ吾人ノ渴想ヲ醫スルニ餘リアリ其上卷(四三九頁)ハ明治二十七年ノ發行ニシテ隱花植物ノ名稱ヲ收メ下卷ノ前編(三一五頁)ハ同三十八年ノ發行ニシテ裸子類竝ニ單子葉類ノ名稱ヲ收メ今度發行ノ後編(七六七頁)ハ双子葉類ノ名稱ヲ收ムルモノナリ上卷發行ヨリ今日ニ至ルマデ八星霜ヲ經過ス以テ此著ノ容易ノ業ニアラズシテ博士ノ精力ノ異常ナルヲ證スベシ特ニ此ニ止マラズ此書ノ前身トモ稱スベキ日本植物名彙ノ發行ハ遠ク明治十六年ニアリ而シテ其改正增補ノ發行ハ同二十八年ニアリ書中收ムル所ノ植物ノ數ヲ計ルニ名彙ニ收ムルモノ凡二千四百、其改正增補ノ時ニ收ムルハ凡三千三百、名鑑ノ上卷ニ至リテハ收ムル所ノ隱花植物ノ數凡四千四百、下卷ノ顯花植物ヲ併ストキハ無慮一萬ニ下ラザルベキ乎著者半生ノ心血ハ此書ニ注ガレタリト謂フモ不可ナカルベシ

我邦ニテ天然物ノ名稱ヲ網羅セル著書ノ植物名彙以前ニ發行セラレ頗ル完備セルハ水谷助六氏ノ物品識名ナリト聞ク此書ハ上下二卷別ニ拾遺二卷アリ今試ニ此二書ノ記スル所ヲ對照センニ水谷氏ノ書中第一著ニ揭グル植物名ハいはひばニシテ

いはひば　イハマツ　卷柏

右ノ如ク僅々二語ニ止マレリ而シテ名鑑ニ同一ノ植物ヲ記スルヲ見レバ

Selaginella involvens, Spr., Mig. P. 349, 390; F. S. II. 200; Luers. Fl.(1876)301; Bak. H. 87; Henry l. 117.

Syn. Selaginella circinatis, Presl. *Lycopodium circinale*, Th. F. J. 341. *L. involvens*, Sw. *L. pulvinatum*, Hook. et Grev.

Nom. Jap. Iwahiba　イハヒバ

先生ノ豫想ノ如ク *P. Susae* ナラント信ズルモノナリ

Puccinia corticioides Ber et B. (Fig. 8)

Stereostoratum Corticioides Mag.

コノ菌ハ竹蓐ト稱シ本草學者間ニ知ラレタルモノニシテ和名ヲ「スゞメノタマゴ」ト稱ス其記載セラレシ書類尠カラズ卽チ多識篇庖厨備用。倭本草。和漢三才圖解等ニ此竹蓐ヲ載スト雖モ「スゞメノタマゴ」ニ充テズ單ニ之ヲ和譯シ若シクハ他物ヲ以テ之レニ充テタルガ如シ多織篇ハ「タケタケ」三才圖解ハ「タケノクサビラ」庖厨本草ハ「スノビキ」トナセリ竹蓐ヲ始メテ「スゞメノタマゴ」ニ充テタルハ貝原篤信翁トス其和名ヲ「スゞメノイヒ」ハ竹ノ液カタマリ色黄ニナリタルナリ竹ニ附テ生ズ小兒炙リ食ス味香バシ本草啓蒙曰ク竹蓐「スゞメノタマゴ」「スゞメノマヽ」(筑前)「スゞメノモチ」(同上)「ツゞメノマヽ」(筑後)「スゞメノマヽ」(筑前)皮竹臺明竹等ノ根上二三尺ノ間ニ生ズ木耳ノ如クニシテ少シク多ク重リテ生ズ黄色ナリ乾ケバ黄白色トナル云々菌史曰ク「雀乃玉一名雀乃卵生竹根上形如木久良計稍似本草竹蓐一名竹肉是也」木草圖譜芝柄部ニ圖アリ又怡顔齋菌品曰(圖入)竹蓐和名スゞメノ玉本草ニ盞譜ノ說ハ白色トアリ時玲ハ紅色ト云和ニアルハ多クハカバ色ニテ竹ニベタリト付テ生ズひらたけノ如ク高クナルモアリ「シノベ竹」ニ多生ス本草ニモ慈竹ニ生ズト云ヘリ若竹ニアルハ大毒アリト云ヘリ

近時ニ至リテハ本誌五卷六卷ニ白井、堀兩先生ガ記サレタルコトアリ且ツ堀學士ハ女竹ノ赤衣ノ和名ヲ命ゼラレタ伊藤學士ノ日本產禾本科植物ノ銹菌ト題スル論文矢田部博士ノ日本植物篇白井博士最近植物病理學此田農學士日本植物病理學山田農學士植物病理學等ニ圖說又ハ記事ヲ見ル

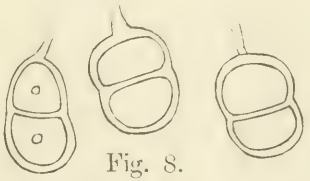

Fig. 8.

又本菌一千八百七十五年英國學術遠征船「チヤレンヂヤー」號乘組員ガ本邦神戸ニテ採集シタルモノヲ同國菌類學ノ大家バークレー氏ガ記載セラレタルガコレ學術的研究ノ初メタリ後一千八百九十九年獨國ノマグヌス氏ハ *Stereostratum* ナル新屬ヲ創設シ其外皮ノ無色又ハ淡黄色ニテ胞子層ハ革樣ニテ殼皮狀ヲナスヲ以テ *Puccinia* 屬ヨリ分離シ本菌ヲ屬セシメタリ

各胞子堆ハ帶黄赤色ノ美麗ナル革樣ヲナシ表皮ヲ破リテ出デ後相會合シテ大ナル斑點ヲナス

胞子ハ初メ球形後稍擴橢圓形トナリ中隔ノ部ニテ最モ多ク縊レタリ內容顆粒狀橙黄色ナリ外皮ハ厚クシテ四 μ 以內外アリ無色平滑ナリ二五—三五‖二〇—二六 μ 子柄ハ

ガ如クシテ且ツ黄色ノモ多シ且ツ螺形ニ曲ルモノアリ殊ニ中間胞子ニ至リテハくさぎノニ寄生ノモノニ最モ多ク混ジ居リ形態モ種々アリ子柄ハ纖細ニテ長シ

Fig. 6.

(三) **Puccinia Sasae Kusano** (Fig. 7.)

各胞子堆ハ葉ノ裏面ニ生ジ群生スルカ又ハ散生ス黒褐色ヲ帶ビ裸出シ粉狀突出シ球形ナリ直徑一mm以下ナリ

各胞子ハ橢圓形又ハ卵形ナリ頂端少シク突出シ先端淡色ナリ上部ノ細胞幅少シク廣シ下部ノ細胞ハ下部ニ至ルニ從ヒ漸次細マルヲ普通トシ稍長シ橙黄色又ハ暗褐色ニシテ長サ四〇乃至八〇μ幅一五乃至二二μアリ中隔部ニテ多ク縊レタリす、たけ *Sasa spiculosa* ニ寄生ス

コノ菌ヲ最初採集セシ時檢鏡ノ結果 *P. Longicornis* ヨリ頂端ノ突起短ク *P. Kusanoi* ニモヨク類似セシカバ其旨記述シ草野先生ノ鑑定ヲ乞ヒシニ「一寸判斷ニ苦メリ *P. Longicornis* ノ頭冠ノ短キ樣ニモ見ユ *P. Kusanoi* ノ樣ニモ見ユ但シ Paraphyses アレバ *P. Longicornis* ニ近キモノカソレトモ *P. Sasae* ニシテ小生ノ記載ハ不完全ナリシニヨルカ暫ク疑ヲ存ストノ回答ナリシガ其後予ハ此菌ニ就キ觀察ニ怠ラザリシニ草野先生ガ作ラレタル圖農科大學學術報告八ノ一圖版四ノ七九七ニ類似シタル胞子ヲ混ズルト同時ニ頂端圓クシテ膜薄キモノヲモ見タリ然シテ其球形胞子ニ至リテハ *P. Corticioides.* ノ胞子ニ類似シタルモノ多數アリタリコノ球形胞子ヨリ想像シテ草野

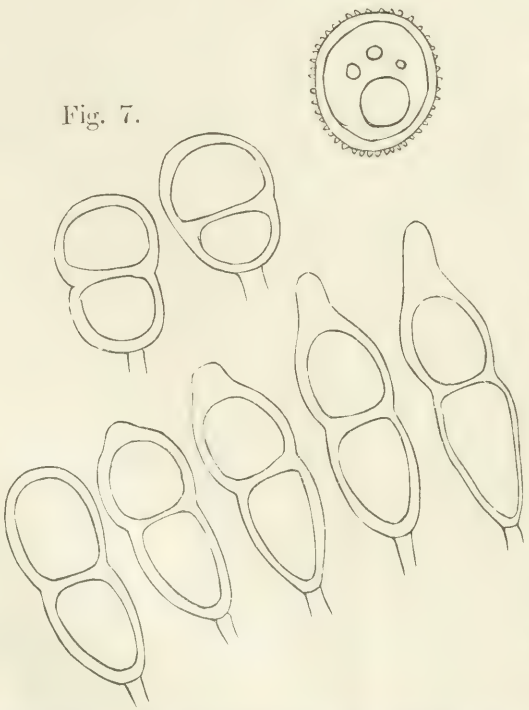

Fig. 7.

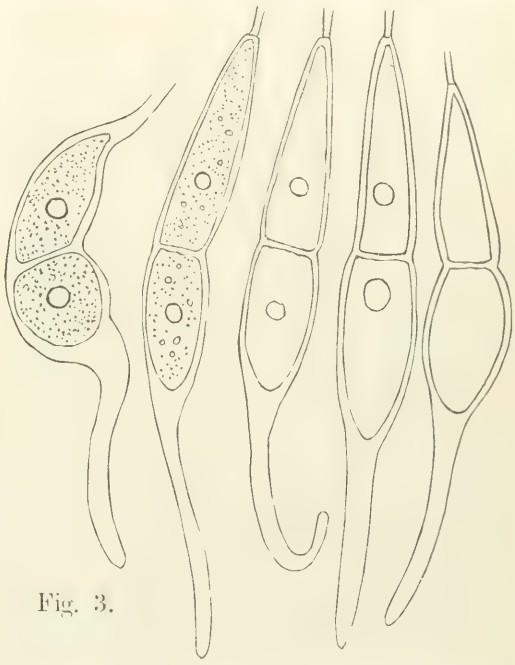

Fig. 3.

(二) **Puccinia mitriformis** Ito. (Figs. 4—6)

本菌モさゝ屬ニ普通ノモノニシテ各胞子堆ハ葉ノ裏面ニ生ジ大ニシテ球形ヲナシ散布スルカ又ハ稍群集ス稀ニ三四個會合シテ線狀ヲナスコトアリ裸出シ粉狀ニテ突出シ堅密ニテ褐色若シクハ濃栗色ナリ直徑一、五乃至二「ミメ」アリ各胞子ハ紡錘形又ハ長橢圓形ニテ頂端ハ外部ニ圓錐形ニ突出シ(四〇—一〇〇μ)稍銳ク下部ハ狹ク中隔部ニテ縊レズ稀ニ僅ニ縊レタルモノアリ橙黃色又ハ黃色頂端ハ無色ナルカ又ハ黃色ナリ一八〇—一三〇‖二〇—二五μアリ中間胞子ヲ多ク混ズ

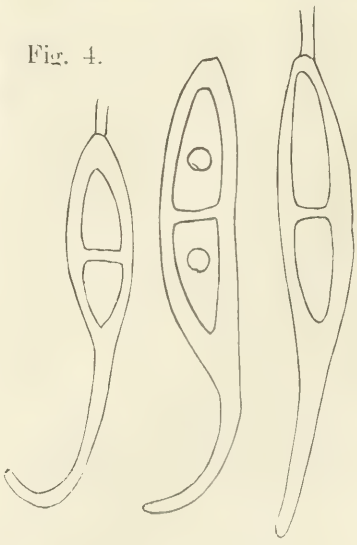

Fig. 4.

ちまきざさ、*Sasa paniculata* くまざさ *Sasa albo-marginata* すゞたけ *S. spiculosa.* 及ビさゝノ一種ニ寄生スコノ種モ形態種々ニシテすゞたけ(第六圖)トちまきざさニ寄生(第四圖)ノモノハ頂端無色ナレドモくまざさ(第五圖)ニ寄生ノモノハ頂端稍長キ

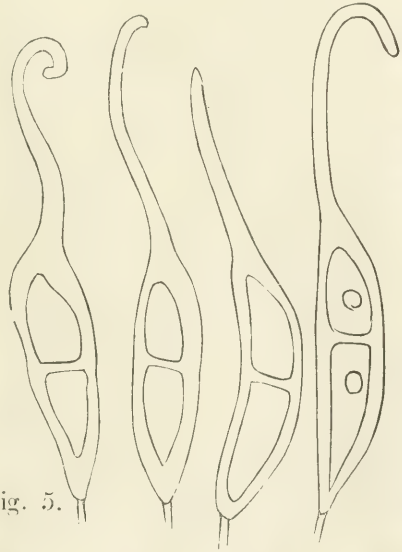

Fig. 5.

(チ) 朱色たけ (*P. cinnabarinus* Fr.)
瀧村ノ腐朽セル樹幹ニ生ズ。
(リ) するひろたけ (*Schizophyllum alneum* Schröt.)
瀧山寺ノたらの木ノ枯枝ニ生ズ。

○さゝ屬ニ寄生スル銹菌ニ就テ

原　攝祐

さゝ *Sasa* 屬ニ寄生スル銹菌ニ種々アリ一千八百九十一年バトウィラード及ビハリオット兩氏ハ *Puccinia longicornis* ヲ記載シ佛蘭西菌類學會報告ニ發表セリ一千九百〇八年東京帝國大學農科大學助教授理學士草野先生ハ農科大學學術報告八卷一號ニ於テ *Puccinia Kusanoi* Diet. *P. kusanoi var. typhae* 及ビ *P. Sasae* ノ二種及ビ一變種ガ寄生スルコトヲ發見セラレ千九百〇九年東北帝國大學札幌農科大學ノ伊藤誠哉氏ハ同學紀要ニ於テ *Puccinia mikiformis* 及ビ *Uredo inflexa* ノ二種ヲ記載セラレ予ハ一千九百十年本誌上ニ於テ *Puccinia corticioides* ガ發生スルコトヲ報ゼリ予ハ此頃さゝ屬ノ銹菌ニ就キ注意シタルニ右ノ數種ヲ得タリ左ニ記載竝ニ圖畫(廓大不同)ノ大要ヲ記セン

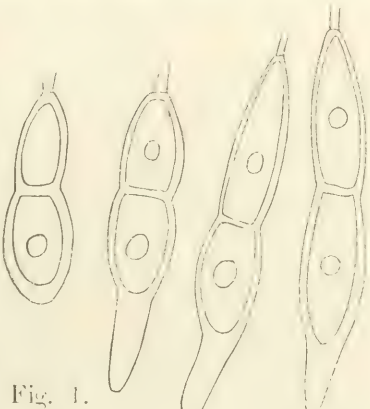
Fig. 1.

(一) Puccinia longicornis Pat. et Harlot,

(Figs. 1—3)

本菌ハ最モ普通ニ存在スルモノニシテ本邦到ル所ニ發生ス各胞子堆ハ葉ノ裏面ニ孤生シ裸ニテ突出シ質堅密ナリ散生スルカ又ハ稍集合シ葉裏ヲ密ニ被フニ至ル

各胞子ハ長形又ハ紡錘形ヲ呈シ中隔ノ部ニテ縊レ頂端ハ漸次ニ厚膜トナリ長キ乳頭突起ヲナス大サ八〇—一〇〇‖一五—二〇μ子柄ハ纖細ニシテ長シ

ちまきざゝ *Sasa paniculata* すゞたけ *S. spicula* 及ビくまざゝ *S. albo-marginata* ニ寄生ス又出田農學士日本植物病理學(五五〇頁)ニ據レバびち〳〵めだけノ葉ニモ生ズト云フ

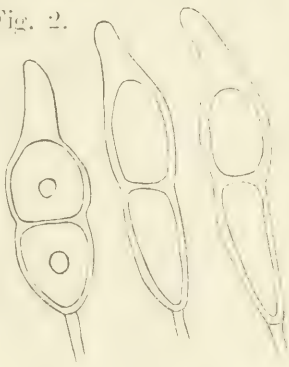
Fig. 2.

コノ菌ハ寄主ニヨリ多少其形態ヲ異ニスちまきざゝ(第一圖)トくまざゝ(第二圖)トハ能ク似タレドモすゞたけ(第三圖)ノモノニ至リテハ頂端ノ突起頗ル長ク胞子ノ大サモ少シク大ニシテ且ツ中隔ノ部ニ於テ多ク縊レタリ

始メタリ。卽チ大字梅園ノ民家ニ見タル二本ノ竹ハ何レモ開花シ居レリ、コレ三月六日ノ事ナリシガ三月下旬ニ至リ、字戸崎ナル縣立第二中學校ノ庭内ニアルモノモ數多開花スルニ至レリ。コレマデ當地方ニ於キテ絶エテ其開花スルモノヲ視ザリシハ或ハ予ノ不注意ニヨルヤモ知ラザレド本年開花ヲ催シタルハ恐クハ舊冬來近年ニ稀ナル暖氣ニシテ今日ニ至ルマデ一回ノ降雪モ無カリシ氣候ガ大ニ其原因ヲナシ、ニ非ルカ。

岡崎地方ノ彼岸櫻

梅村甚太郎

本年三月十五日頃ヨリ岡崎地方ニ於テ開花シ始メタル彼岸櫻ナルモノニ三種アリ。卽チ

(イ) *Prunus itosakura* SIEB.

此モノハ字戸崎ナル愛知縣立第二中學校ノ庭内ニアリ、地面ヨリ一尺許ノ處ニテ圍ミ四尺許アリ。

(ロ) *P. itosakura* SIEB. var. *ascendens* MAKINO.

此モノハ字六供ナル岡崎高等女學校ノ裏手ノ山ニ在リ、樹高凡ソ二丈五尺許アリ。

(ハ) *P. subhirtella?*

此モノハ愛知縣立第二師範學校ノ庭園、甲山公園及ビ市中ノ各民家ニアル普通種ニシテ比較的艶美ナレド多クハ大木ナラズ。

三河國常盤村地方三月廿一日ノ菌蕈類

梅村甚太郎

三月二十一日ハ岡崎ヲ北ニ距ルコト一里半許ノ常盤村字瀧地方ニ於テ漸ク左ノ諸菌ノ發生スルモノアルヲ視タリ

(イ) しひたけ (*Cortinellus Shiitake* HEIM.)

瀧山寺ノ柯樹ノ切リ株ニ生ズ。此地方ハ元來民間ニテモ香蕈ヲ栽培スルモノアリ。

(ロ) わいだたけ (*Cyclomyces fuscus* FR.)

瀧村ノ柯ノ大樹ノ地上一丈内外ノ處ニ多ク群生セリ。此種ハ岡崎ニテモ柯樹ノ切株ノ地面ニ近キトコロヨリ五六尺ノ高サニ至ルマデ常ニ澤由之ヲ生ズ。

(ハ) さるのこしかけノ一種 (*Fomes* sp.)

瀧山寺ノ森中、柯樹ノ切株ノ側面ニ生ズ。

(ニ) 一本しめじノ類 (*Kuehneromyces prunulidis?*)

常盤村字稻熊ノ春日神社内、落葉ニ富メル地面ニ生ズ。

(ホ) やなぎたけ (*Hypholoma fasciculare* HUDS.)

稻熊及ビ瀧山寺ノ柯樹及ビ柃等ノ樹根ニ生ズ。

(ヘ) ほこりたけ (*Lycoperdon gemmatum* BATSCH.)

瀧山寺ノ境内ノ通路地上。

(ト) かはらたけ (*Polystictus versicolor* FR.)

櫟、柁等ノ切株ニ生ズ。

ちいぬふぐり、ながはぐさ等ノ植物此日本ノ土ニ來リテ今ハ野生ノ狀態トナリシト雖ドモ此等ノ植物全然本國ヲ去リテ籍ヲ我日本ノ地ニ移シ去リタルモノニアラズシテ彼國ニハ尙依然トシテ其國即チ其本籍地ノ土產植物トシテ繁殖シツヽアルヲ以テナリ元來「歸化」ノ語ノ意ハ此ノ如キモノニアラズシテ其物全然此土ヲ望ンデ移リ來リ此處ニ歸シテ其土ノモノト化シ去リタルモノヲ稱スルノ語ナルヲ以テ Naturalized ヲ以テ「歸化」ト譯スルハ妥當ニアラズト愚考ス然レバ則チ何ノ語ヲ以テ之ニ換ヘン乎予ハ「馴化」ノ語平凡ニシテ敢テ奇想ヲ弄セズト雖ドモ之ヲ以テ「歸化」ノ語ニ優ル萬々ナルヲ信ゼント欲ス

○つるつげノ名空シカラズ

牧野富太郎

つるつげ（*Hex crenata* Thunb.）ハ我邦北部ノ山中ニハ頗ル多シト雖ドモ南方ニ至ルニ從ヒ漸次稀少トナル枝幹横臥シ恰モ蔓ノ如シ而シテ其能ク成長セシモノニ在テハ長サ實ニ九尺二寸ヲ算スルモノアリテ痩莖惹々蔓狀ヲ呈スつるつげノ名空シカラズト謂フベシ

○やまとぐさノ新產地

牧野富太郎

佐渡ノ丸田豐平君ヨリ名稱質問ノ爲メ送ラレタル一束ノ標品中ニやまとぐさ（*Cymoseramle japonicum* MAKINO.）アリ本品ハやまとぐさ科（獨立ノ科トスレバ）ヲ搆成スル唯二種中ノ一種ニシテ從來ノ產地ニ加フルニ今佐渡ヲ以テセルハ其地理分布ノ上多少ノ興味ナクンバアラズ丸田君ノ採地ハ同國大津三貫目澤ニシテ昨明治四十四年六月二十日ノ採集ニ係レリ

本植物ハ多年生ノ小本ニシテ其外觀極メテ能クあかね科ノはしかぐさ（*Oldenlandia hirsuta* L. FIL.）ニ類似ス卽チ其草狀ノ概觀ト云ヒ葉ト云ヒ葉間托葉ト云ヒ又其莖葉ノ臭氣ト云ヒ洵ニあかね科ノモノタルガ如シト雖ドモ一タビ其花ニ接セバ則チ此ニ直テニ其不ラザルヲ知ルヲ得ベシ而シテ兩科些ノ緣ナクシテ然カモ此ノ如ク兩者能ク相類セル品ハ他ニ多ク其儔ヲ見ズ予ノ始メテ之ヲ土佐吾川郡名野川村ノ山地ニ得シトキハ時恰モ秋深ク固ヨリ花實ナクタヾ葉ヲ著ケタル莖ノ地面ニ偃臥セシノミナルヲ以テ採リテ後久シク之ヲはしかぐさト想ヒシナリ後花アル標品ヲ得ルニ及ンデ此ニ始メテ一種特別ノ植物タルヲ知ルニ至リシナリ

○岡崎ノ寒山竹花咲ク

梅村甚太郎

近年東京地方ノ寒山竹ノ開花セル趣ハ牧野先生ニヨリテ既ニ承知セシガ三河國岡崎地方ノモノモ此頃漸ク開花シ

學者ギーエルモン氏ノ名ヲ取リ *Guillermondi subversus* ナル新屬新種ヲ立テタリ。其細胞ノ形ハ卵形楕圓或ハ梨子狀ヲナシ接合ニ依テ胞子ヲ形成スルモノナリ。卽チ其成熟シタル細胞ハ一ノ小芽ヲ生ジ此小芽ハ母體ヲ離レ二個相接シ其一方ヨリ突起ヲ出シテ接合ス。其一個ハ特ニ大形ニシテ雌性ヲ表ハシ他ハ小形ニシテ雄性ナリ。此雌雄ノ細胞內容物相混和ノ後其雌性細胞ノ遊離端ニ新芽ヲ生ジ此新芽熟シテ子囊トナリ中ニ一個稀ニ二個ノ子囊胞子ヲ形成ス。此胞子ノ外膜ハ赤褐色ヲ呈スルヲ以テ胞子ヲ形成シタル集落ハ著色スレドモ胞子ヲ有セザルモノハ純白色ナリ。斯ノ如クシテ形成セラレタル胞子ハ子囊ヲ破リ出デ、發芽スルヤ出芽法ニヨリ增殖シ熟シテ再ビ大小芽互ニ接合シ子囊ヲ作ルニ至ル。但シ子囊胞子ハ子囊中ノミナラズ雌性細胞中ニモ形成セラルヽ事アリ又全ク胞子ヲ形成セザル事アリト云フ。

偶々莖上ニ苗ヲ生ズル植物二種

牧野富太郎

每株必ズ然ルニハ非ザルモ時ニ莖上ニ苗ヲ發生シ看者ヲシテ頗ル瞠若タラシムルモノニさはぜり竝ニやまがらしアリ

さはぜりハ又ぬまぜりト云フ卽チ *Sium nipponicum* MAXIM. 是ナリ水傍ニ生ジ晩秋花實アリ莖立チテ枝梗ヲ分ツ枝梗ノ節上時ニ小苗ヲ發出シ葉ヲ叢生ス葉ハ小形ニシテ外者往々單片葉面ヲ有シ內者ハ三出或ハ羽狀ヲ成シ其ニ長柄アリ柄本ノ鞘往々紅紫色ヲ呈ス昨明治四十四年晩秋之ヲ武州和田村大箕谷八幡ノ傍ヲ流ルヽ小流ノ畔ニ採ルやまがらしハ卽チ *Barbarea vulgaris* R. Br. var. *stricta* Fenzl. 是ナリ花疾クニ了リテ果實亦既ニ老ヒ種子稔シ盡シテ枯角梢ニ殘ルノ時莖ノ下部尙生色ヲ保ツ者莖上時ニ苗ヲ發出シ葉ヲ叢生ス昨明治四十四年初冬ノ候之ヲ野州日光ノ山中ニ採ル

此兩種ノ植物莖上ニ苗ヲ發スルコト是レ其常態ニ非ズト雖ドモ吾人ノ時ニ此ノ如キコトアルニ逢著スル所以ハ偶々此等ノ植物ニ此ノ如キ現象アルヲ示スモノナリ

○歸化ノ語

牧野富太郎

近來植物ノ上ニ「歸化」ノ語ヲ見ル卽チ Naturalized セシ植物ヲ「歸化」植物ト云ヘリ元來「歸化」ノ語ハ古來之レアリタレドモ之ヲ植物ノ上ニ適用セシハ實ニ明治二十七八年ノ頃ニ始マル、之ヲ植物ノ上ニ適用スルニ當テ吾人ハ先ヅ其語ノ頗ル奇拔ナルヲ感ゼズンバアラザリシト雖ドモ當時予ハ之ヲ恰當ナル好譯語トハ思ハズ或ハ「氣化」トセバ却テ巧ナルニアラズヤト考ヘシナリ而シテ予ノ「歸化」ノ語ニ賛セザリシ所以ハ假令バ彼ノおほいぬふぐり、た

褐色ヲ呈ス、隔リタル深キ輪層アリ、實質ハ材色ヲ帶ビ、菌管ノ孔ハ小サクシテ、赭黃色ヲ呈ス。明治四十四年八月、野州日光ノ樹皮面ヨリ採集ス。

○すぐりたけ(新稱)

Fomes Ribis(Schum. Fries.)

(所屬)同上

菌傘ハ無柄ニシテ扇平ナリ、概ネ覆瓦狀ヲ爲シ、其形樣樣ニシテ、幅五乃至一二「センチメートル」ニ達ス。表面ハ銹褐色ニシテ、天鵞絨樣ノ毛ヲ以テ被ハレ、著シカラザル輪層ヲ具ヘ。實質ハ栓革質ヲ帶ビ、黃褐色ヲ呈ス。裏面ハ黃褐色ニシテ、菌管ハ短ク、孔ハ小サシ、仙臺ノ林地ニ生ズ。

○やにたけ(新稱)

Polyporus resinosus (Schrad.) Fries.

(所屬)同上、

菌傘ハ無柄ニシテ扇狀ヲ爲シ、往々覆瓦狀ニ排列ス、直徑五乃至一〇「センチメートル」アリ。表面ハ赤褐色ニシテ縱皺ヲ有シ、輪層ヲ缺ク、初ハ肉質、後ニ栓質ヲ帶ビ、若キ時ハ樹脂樣ノ物質ヲ分泌ス、裏面ハ黃灰色ニシテ、菌管ノ孔ハ小ナリ。岩手縣江刺郡、伊手村ニ產ス、和川仲治郎氏ノ採集ニ係ル。

○ちりめんたけ(新稱)

Lenzites repanda (Mont.) Fries.

(所屬)同上

菌傘ハ略ボ無柄ニシテ扇狀ヲ爲シ、往々重生ス、直徑五乃至八「センチメートル」アリ。表面ハ白色ニシテ輪層ヲ具ヘ、平滑ナリ、裏面ハ白色ニシテ、老ウレバ少シク黃味ヲ帶ブ、子囊層托ハ細カキ迷路狀ヲ爲シ、頗ル美麗ナリ。本品ハ元來熱帶地方ニ普通ノ種ナリ、群馬縣勢多郡、芳賀村ニ產ス、角田金五郎氏ノ採集ニ係ル。

○つぼみたけ(新稱)

Daldinia vernicosa Schw.

(所屬) 眞正囊菌門、眞正囊菌區、核菌亞區、(Pyrenomycetineae)、苺斑葉病菌群 (Sphaeriaceales) くろさいはいたけ科 (Xylariaceae)

子座ハ球形ニシテ太キ柄ヲ具ヘ棍狀ヲ爲シ、平滑ニシテ黑褐色ヲ帶ブ、直徑五乃至一〇「ミリメートル」アリ內部モ黑褐色ニシテ、求心的ノ輪層ヲ有ス。被子器ハ子座ノ周邊ニ埋沒シ、頂孔ヲ具フ。八列子囊ハ圓柱狀ニシテ、八個ノ褐色八裂子ヲ藏ム。絲狀ノ線狀體アリ。上州赤城山ニ產ス、角田金五郎氏ノ採集ニ係ル。

○酵母菌ノ一新屬

小南清

露西亞ノ NADSON 及 KONOKOTINE 兩氏ハ *Debaryomyces globosus* ニ似タル珍奇ナル一種ノ酵母菌ヲ發見シ佛國ノ菌

ノ事ナルカ詳ナラズ

○*Helwingia japonica* ノ author ハ Willdenow 氏ナリ

中井猛之進

はないかだノ學名ニ二ツアリ、*Helwingia ruscifiora* 及ビ *H. japonica* 是ナリ、前者ハ Willdenow 氏ガ一八〇五年 Species plantarum 第四卷七一六頁ニ記セシヲ始メトシ、Ziebold, Harms, Miquel, Diels 等ノ諸氏之レヲ用キ後者ハ同ジ植物ガ其以前一七八四年既ニ Thunberg 氏ノ手ニテ Flora Japonica 中ニ *Oxyris japonica* ト記サレシ故其名ト事績ヲ保存且紀念セン爲メ *Helwingia japonica* トスルモノニテ Dietrig, Steudel, Franchet, Alph. De. Candolle, Morren, Decaisne, Wangerin, ノ諸氏ノナス所ナリ、之レハ德義上 *H. japonica* ヲ取ルガ正當ナルガ、サテ其 author トシテハ Morren, Decaisne 兩氏ハ氏等自ラヲ其 author トシ Index Kewensis ノ著者之レニ從ヒ Steudel, Alph. De. Candolle, Franchet, Wangerin ノ諸氏ハ Dietrig 氏ヲ其 author トシ特ニ De Candolle 氏以下三名ハ一八二一年版ノ Steudel 氏ノ Nomenclator botanicus 第三九九頁ニ Dietrig 氏ヲ author トシアルニ從ヘリ、然レドモ Dietrig 氏ノ著者ニ Nachtrag der Garten Lexicon トヲ云フガアリ、其第三卷ハ一八一七年ノ發行ニテ Steudel 氏ノ著書ヨリ四年早ク世ニ出デ其第六六〇頁ニ *Helwingia japonica* (Thunb.) Willd. トアリ之レニ依テ見レバ Dietrig 氏ハ何故ニ Willdenow 氏ヲ author トセシカ今其情ヲ窺ヒ難キモ其 author ヲ Willdenow ト定メシコトハ明カナレバ「はないかだ」ノ學名ヲ記スニハ *Helwingia japonica* (Thunb.) Willd. トスルコソヨケレ、

○菌類雜記（七）

安田篤

○はちのすたけ(新稱)

Favolus europaeus Fries.

(所處)　基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、さるのこしかけ科、さるのこしかけ亞科

菌傘ハ軟肉質ニシテ薄ク、圓クシテ短キ側柄ヲ具フ、表裏共ニ淡黃色ヲ呈シ、平滑ナリ、直徑二・五乃至「センチメートル」アリ。子囊層托ハ蜂窩狀ヲ爲シ、孔ノ直徑一乃至二「ミリメートル」ニ達ス、基子ハ無色ナリ、仙臺林地ノ樹枝上ニ生ズ。

○つがたけ

Fomes piuicola Fries.

(所處)同上.

菌傘ハ無柄ニシテ半圓狀ヲ爲シ、長徑一六「センチメートル」、短徑一二「センチメートル」マデアリ、木質ヲ帶ビ、平滑ニシテ、表面ハ黃褐色、後ニ黑色トナリ、緣邊ハ赤

ノ性質、花小梗分出ノ狀、蕚花梗ノ花彩、樹容、枝態、新葉ノ色彩、花ノ集散、新葉發生ノ時期等ノ微點ニアリ。栽培セラル園藝變種ハ其數極テ多シト雖モ之等ハ野生原種ノ何ヨリ降下シ來リタルモノナルカト云フニ小生ハやまざくら（*Prunus donarium*, Sieb. var. *elegans*, Koidz. subvar. *glabra*, Koidz）おくやまざくら（*Pr. donarium*, var. *elegans*, Koidz. subvar. *pubescens*, Koidz.）おほやまざくら（小泉稱）（一名おほしまざくら、又たきゞざくら）（*Prunus donarium*, Sieb. var. *speciosa*, Koidz）ノ三者ニシテ就中最後ノモノ最モ多ク現今有名ノ變態品ヲ生ゼシト考フ。

而シテるゐぞやまざくら（小泉稱）（一名あけぼのざくら予、おほやまざくら牧野氏稱）（*Prunus donarium*, var. *sachalinensis*, Koidz.）ヨリ出デシ園藝品ハ極メテ少シやまざくらヨリ出シ品ハ長州緋櫻、小汐山、朱雀、瓣殿早晩櫻、不斷櫻、わかきのざくら、金剛山、白華山、等ノ如キ品類ニシテ、おほやまざくら（予）ヨリ出デシト思ルルモノハ千里香、白妙、大南殿、嵐山、紅虎尾、水上、雨宿、有明、法輪寺、手毬、一葉、大芝山、鷲ノ尾、旗櫻、蓬來山、御車返、五所櫻、苔清水、麒麟、等甚多シるゐぞやまざくらヨリ出シ品種ハ小石川植物園ニ一種アリシガ四十四年中ニ枯死シタリ甚稀有ノモノナリシガ惜シキコトナリ。

○飛來鶴トハ何ゾ

松田定久

植物名實圖考蔓草類中ニ飛來鶴ト稱スル植物アリ其說明ニ曰ク

飛來鶴生江西廬山。莖葉似旋花。惟葉紋深紫。嫩根紅潤。小如箸頭。與他種異。

其說ク所ハ甚ダ要領ヲ得ズト雖其圖スル所ハ頗ルいけま類（*Cynanchum*）ニ近似ス先年稻並幸吉氏ガ廬山ニテ採取セラレタル植物ニテ *Cynanchum auriculatum* Royle トスルモノハ極メテいけま若クハこいけまニ近緣ノモノナリ飛來鶴ハ其圖竝ニ產地ニ因テ考フルニ殆ド此種ニ相當スルモノニ似タリ記シテ以テ後ノ考定ヲ俟ツ（本誌第二十五卷九一頁、同四六〇頁〔邦文ノ部〕參照）

○紫藤ノ返リ咲ノ一例

松田定久

蓼園遺艸（橋本景岳氏ノ遺稿）ノ上卷ニ公園紫藤發狂花喜賦ノ詩アリ云ク請見秋風搖落後紫藤花發表奇榮ト是レ秋後ニ紫藤ノ花ヲ著ケタル一例ナリ櫻ナドニハ返リ咲キ多シ紫藤ニテハ頗ル異例ト考フルヲ以テ爰ニ揭グ公園トハ今所謂公園ニハアラズ橋本氏ノ仕ヘタル松平春岳公ノ園ナリ公ノ庭園ハ舊江戶竝ニ越前福井ニアリタリ就レノ園

ハ伊豆ノ大島ニ原産スト又ハ同島ヨリハたきゞざくら又おほしまざくらナルモノヲ産スト或ハ又同島ノさくらハ之レやまざくらナリナド種々ノ話ヲ聞キタリ。依テ本春此島ノ櫻ハ元來何ナルカ之ヲ決定センガ爲メニ開花期ヲ待テ同島ニ到リテ檢シタルニ全ク小生ノおほやまざくら（Prunus donarium, var. speciosa, Koidz.＝*Pr. jamasakura*, β, *speciosa*, Koidz.）ナルヲ知レリ。

此おほやまざくら（一名たきゞざくら又ハおほしまざくら）ハ同島ニテやしやぶし、みづきト混交林ヲ作リ以テ東京ニ輸出スル薪炭材料トナルモノニシテ元來同島ニ野生セルモノナルコトハ有名ナル櫻株ノ名所ノ野生古木ヲ見レバ明ニ想ヒ得ベシ

而シテそめゐよしのノ自生ハ之ヲ發見スルコト能ハザリキ小生想フニ此櫻ハえぞやまざくらトひがんざくらノ中間ノ性質ヲ有スルニヨリ此二種ニ關係アリトスレバ何レヨリ突然變化ニヨリテカ又ハ以上二種ノ交配ニヨリテ生ゼシモノニハ非ルカ

おほしまざくらハ其果實大ナルヲ以テ之ニ陶汰ヲ行ハゞ優ニ日本ノ櫻桃トナシ得ルモノナラン。

○支那櫻桃ノ栽培

小泉源一

からみざくら（Prunus pseudocerasus, Lindl.）ハ長崎地方ニテハ極テ普通ニ栽培セラルヽモノナルガ今春伊豆大島ヨリ歸途偶伊豆ノ伊東地方ヲ過ギシニ又栽培セルヲ見タリ地方ノ人ニ聞ケバ採果用ニ植エタリト云フ。

○やまざくら一家の變態品

小泉源一

古來やまざくらノ園藝品卽チ現今一般ニさとざくらトシテ知ラルヽモノ甚多シ或書ハ六十餘品ヲ記シ他書ハ百五十餘品ヲ記ス、而テ之等ハ皆園藝品種ナルヲ以テ或一團ニアリテハ其相互ノ特徵極テ著シカラズ卽チ品種トシテノ差違ハ極メテ些細ナルモノ多シ、然レドモ時ニハ又甚明ニシテ著シキ特性ヲ有スルモノモナキニ非ラズむしやざくら（予）（*Prunus fortis*, nom. nov.＝*Pr. Sieboldi*. Koidz. non Carr.）ノ如クやまざくらノ一般性質ヨリ遠リテ一ノ種トスベキ程ノモノモアリ、如斯遠ク隔ラズトモ明ニ區別シ得ベキ品種ニハ白雪、海棠櫻、關山、秦山府君、猩々、御衣黃、千里香、麝金櫻、及ビこはざくらノ如キモノモアリ

元來やまざくらハ最著シキ野生ノ變種五アリ之等變種ノ各ニアリテモ自然ニ於テ既ニ各個體間ニハ些細ノ點ニ於テ種々ノ差異アルヲ目擊シ得ルモノナルガ園藝品亦之ト同ク人々ノ認ル所ノ特徵ハ花色、花形、芳香ノ有無、花梗ノ狀態、花瓣ノ變數變形、雌蕊ノ變形、毛ノ有無、苞

みやまたにたで、くろばなうまのみつば、しゃく、どくせり、まるばたうき、ししうど、はまばうふう、えぞにう、えぞごせんたちばな、いそつつじ、きばなしゃくなげ、ひめしゃくなげ、くろまめのき、こけもも、つるこけもも、さくらさう、やなぎとらのを、あさざ、はないかり、くさたちばな、はなしのぶ、はまべんけいさう、なみきさう、おどりこさう、るりとらのを、しほがまぎく、きばなかはらまつば、あかねむぐら、にはとこ、りんねさう、おほたにうつぎ、ほたるぶくろ、やましゃじん、さはぎけふ、はまべのぎく、えぞのちちこぐさ、のこぎりさう、やまははこぐさ、よもぎぎく、しろよもぎ、よもぎ、ちしまよもぎ、おとこよもぎ、はんごんさう、えぞをぐるま、こはまぎく、かがのあざみ、はちじゃうな、じしばり、ノ百二十種ニシテ我國ニ未發見ノモノハ僅カニ *Aira caespitosa*, *Poa macrantha*, *Elymus mollis*, *Cypripedium guttatum*, *Platanthera fuscescens*, *Salix* sp?, *Ulmus fruticosa*, *Thesium octopoleum*, *Aquilegia oxysepala*, *Aconitum umbrosum*, *A. Kusnezoffi*, *Thalictrum sparsiflorum*, *Papaver alpinum*, *Sedum elongatum*, *Sedum cyaneum*, *Cotyledon spinosa*, *Fragaria elatior*, *Comarum palustre*, *Chamaenerion angustifolium*, *Conioselinum kamtschaticum*, *Leontopodium tatewicum*, *Artemisia borealis*, *Ligularia speciosa*, *Saussurea subsinuata*, *Saussurea Derbechii*, *Mulgedium sibiricum* ノ二十八種アルノミ其中新種ハ *Saussurea Derbechii* *Leontopodium tatewicum* トノ二種ナリ

(T. Nakai).

○コマロフ氏『南烏蘇利ノ水鼈科性物』

Комаровъ. В. Л. Hydrocharitaceae юго-Уссури йскаго Края.

從來烏蘇利地方ニハ水鼈科植物ハ *Hydrilla verticillata* ト *Vallisnera spiralis* ノ二種ノミ知ラレ居リシモ著者ガ浦鹽博物館ノシェルスキー氏ノ採品ヲ研究シテ更ニ *Hydrocharis cellulosa* ト *Ottelia alismoides* ノ二種アルコトヲ知リ特ニ後者ニハ二ツノ *form* アリテ一ツハ水中深キ所ニ生ジ大形ニシテ *f. lacustris* ノ名ヲ與ヘ一ハ淺水中又ハ半バ水上ニ出デ、生ズル小形ノモノニテ *f. oryzetorum* ノ名ヲ與ヘリ、

(T. Nakai).

◎雜　錄

○伊豆大島野生ノ櫻

小泉源一

吾人ハそめゐよしのざくら (Prunus yedoensis, Matsum)

本研究ハ東京帝國大學農科大學教授理學博士白井光太郎先生ノ懇篤ナル指導ヲ蒙リタリト云フヨリハ寧ロ先生ト共ニ研究セシト謂フヲ至當トス予ハ斯ノ如キ始末トナリ心私ニ愧ズ依テ之ヲ明記シテ先生ニ深厚ノ謝意ヲ表ス

又種々ノ標本ヲ供給シ且ツ數度ノ質問ニ應答セラレタル高知縣立高等女學校教諭吉永虎馬氏及ビ *Kusano*. (*Cercidiphyllum* ニ就テ　原) ノ標品ヲ貸與セラレタル東京帝國大學農科大學助教授理學士草野俊助先生ノ厚意ヲ謝ス

◎新著

○コマロフ氏『一九〇九年デルベック氏採收植物』

Комаровъ. В. Л. Ботанические сборы О. А. Деларка 6ъ 1909 году (Bulletin du Jardin Impérial Botanique de St. Pétersbourg. Tome X. p. p. 101—120.

著者ガフェロドル、アルデルトビシュ、デルベック氏ノ黑龍江口附近所謂 Tartary 地方ニテ採收セル vascular Cryptogam 以上菊科植物ニ至ル百四十八品種ニ就テノ研究ヲ發表セルモノニテ同地方ノ植物ガ北海道、樺太ノ Flora ニアルモノハ

とくさ、ひかげのかづら、はひまつ、しらびそ、あまも、ひろはのえびも、ほそばしばな、こうばう、いはのがりやす、*Calamagrostis brachytricha*, やまいちごつなぎ、おにいちごつなぎ、おほうしのけぐさ、うしのけぐさ、わたすげ、ぬまはりゐ、こうばうむぎ、ねむろすげ、くろすげ、おほいぬゐ、せゝていくわ、ぎゃうじゃにんにく、えぞすかしゆり、くろゆり、あまどころ、おほまひづるさう、ひあふぎあやめ、いちえふらん、はこやなぎ、さるやなぎ、はまあかざ、いぶきとらのを、えぞおほやまはこべ、しこたんはこべ、えぞはこべ、*Stellaria Friesiana*, ながばつめくさ、はまはこべ、まつもとせんのう、ひつぢぐさ、きんばいさう、みやまはんしゃうづる、からまつさう、あきからまつさう、くさのわう、こんろんさう、むらさきべんけいさう、あをのいはれんげ、ほそばきりんさう、まうせんごけ、うめばちさう、まるばしもつけ、ほざきしもつけ、ちしまいちご、ほろむいいちご、きじむしろ、ちしまきんばいさう、えぞつるきんばい、おほばだいこんさう、しばな、われもかう、はまなす、おほみやまななかまど、せんだいはぎ、たにわたり、はまえんどう、れんりさう、みやまぐんないふうろ、ちしまふうろ、がんかうらん、きつりふね、やなぎあかばな、

NAGA). *Q. glauca* THUMB. Prov. Suruga, Abegori, Toyoda (S. TSURUDA). On the living leaves of *Pasania cuspidata S.* et *Z.* prov. Tosa, Kōchi (T. YOSHINAGA).

Key to the genera of Coccoidiaceae

(a) Spore dark colored and 2 celled.

Coccidea (*Coccodisnes*).

(b) Spore subhyaline and 3—celled

Coccodiella.

Yoshinagamyces HARA nov. gen.

Stroma disciform, cartilagious, attached to the substratum, with a short central stalk-like process at the flattened base, dark colored; pycnidia very large single to each Stroma, situated near the upper surface. Spores clavate or fusiform, tri-septate, borne on a long pedicel, with 3 or more filiform appendages at the top, hyaline.

Yoshinagamyces Quercus (P. HENN.) (Figs. 5—9, Pl. III.)

Syn. *Yashinagaia* QUERCUS P. HENN. in Hedw. 1904. p. 143; SACC.; Syll. Fung. vol. XVII. p. 859.

Stroma epiphyllous, gregarious or scattered, cartilaginous, disciform, 2 — 3m.m. in diameter, with a short stalk-like process at the base, dark colored and minutely granulous on the convex surface, and grayish inside at the thickened basal portion; basal prosess 50—75 × 2.5 × 4. μ; Picnidium simple to each Stroma forming a continuous layer; Spore clavate or fusiform, 3—septate, hyaline, 50—70 × 8—12μ, with 3—filiform simple or bifurcate appendages at the top; appendage 50—100 × 0.5—7μ; When mature picnidium ruptures irregularly and spores escape in the form of grayish yellow-drops. **Hab**. On the living leaves of *Quercus glauca* THUNB. Prov. Tosa, Kōchi (T. YOSHINAGA. felb. 1902); Prov. Suruga, Shizuoka (S. TSURUDA, felb. 1911).

行發日十二月五年五十四治明

胞子黄色ニシテ二細胞ナリ——*Coccodiella*

P. Hennings 博士ハ *Coccoidea* ヲ隸セシムルニ Dothideaceae ヲ以セラレタルガ如ク其子嚢殻ガ特別ナル殻ヲ作ラズシテ子座中ニ沈在スル狀態ハ能ク Dothideaceae ニ似タリ然レドモ該科ハ寄主ノ組織中ニ子座ヲ生ズルカ又ハ子座突出スルト雖モ緣邊ノ附著セザルヨトナシ又 Myriangiaceae ノ *Kusanoa* (Fig 10—12) ニ其子座ノ狀態相似タリト雖モ子嚢殻ニ甚ダ異ル點アリ

今左ニ二種ノ記載ヲ揚ゲレバ次ノ如シ

Coccoidea quercicola P. Henn. et Shirai Figs. 1—4, Pl. III in Engl: Bot. Jahrb. vol. XXVIII, p. 275, 1902; Sacc., Syll. Fung. vol. XVI. p. 624; *Coccodiscus quercicola* P. Henn. in Hedw. vol. XL III, p. 144, 1906; *Sacc.*, Syll. Fung vol. XVII. p 860. Stroma hypopyllous, gregarieus or scattered, subcarnate, disciform and circular in outline, with a stalk-like appendage at the center of the under surface, margine liberate, 1.5—3, m.m. in diameter, minutely granulate on the upper surface, dark colored. Perithecia immersed, globose or elliptical, ostiolate, 200 – 230μ in diameter; Ascus clavate, stipitate, 8-spored, 60 -70 × 15—20μ; paraphysed filiform, hyalin, 2μ broad; Spores Q-seriate or irreglary in 3-rows, oblong or ovate, 1-septate, divided in to 2-cells of very unequal size, with 1 or 2 oil-drops in the larger cell, yellowish brown, 8—11 × 5.5 × 8μ.

Obs. Perhaps P. Hennings made a discription of *Coccodiscus quercicala*, from an unripe specimen of this fungus and confounded the smaller cell of the two-celled spore as a papilla, but in reality it is not the case, and I think the fungus is identical with *Coccoidea quercicala* P. Henn et Shir. So this reduction is nesessary in order to avoid the confusion.

Hab. On the living leaves of *Quercus myrsinaefolia* Bl. Prov. Tosa. Kōchi (T. Yoshinaga). Prov. Izu (M. Shirai) Prov. Musashi, Tokyo (S. Kusano and K. Hara). On the living leaves of *Q. gilva* Bl. Prov. Tosa. Kochi (T. Yoshi-

似タル無色ノ芽胞ヲ生ズルモノナレバ同博士ノ記載ト著シク相違セルヲ以テ尚ホ念ノ爲メ最初本菌ヲ採集シテ P. HENNINGS 博士ニ送附セラレタル吉永虎馬氏ニ子嚢ノ有無ニ就キ照會セシニ昨年四月廿日附ヲ以テ氏ノ寫生畫ヲ貸與セラレ次デ六月六日附ヲ以テ同氏基本標本ヲ送附セラレタレバコレニヨリ見タルニ皆子嚢ヲ有セザルモノナリキ右ノ調査ノ結果其屬名ヲ求メシニ不完全菌族 (Fungi Imperfecti) *Sphaeroidales* Excipulaceae-Hyalophragmiae 科ニ屬スト雖モ同科ニハ斯菌ノ如キ異樣ナル絲狀附著物ヲ有スル分生子ヲ有スルモノヲ求ムル能ハズ故ニ新屬トナスヲ至當ト考ヘ吉永氏ノ發見ノ效ヲ沒セザランガ爲メ *Yoshinagamyces* nov. gen. トナサントス其特徵ヲ記スレバ

子座ハ圓盤狀ヲナシ僞肉質ナリ下面ハ僞柄狀物ニテ寄主ニ附着ス黑色ナリ內部ハ一個ノ胞子室ヲ成ス芽胞ハ紡錘形三個ノ隔膜ヲ有シ無色透明ナリ頂端ニ分岐セル絲狀突起アリ

Yoshinagamyces quercus (P. HENN.) Hara *Syn. Yoshinagata quercus* P. HENN.

子座ハ葉ノ表面ニ散生シ肉眼的黑色點狀ヲナス僞肉質半圓盤形ヲナシ下面ノ中央僞柄狀附屬物ヲ以テ寄主ニ附著ス緣邊ハ附著セズ表面ハ黑色一面ニ小粒點ヲ密布ス直徑二乃至三「ミメ」普通二「ミメ」アリ內部ハ灰白色若シクハ淡褐色ニシテハ菌柔組織ヨリ成リ內ニ一個ノ胞子室ヲ作ル檐子梗ハ絲狀ニシテ隔膜アリ長サ五〇乃至七五「ミュー」幅二、五乃至四「ミュー」アリ芽胞紡錘形楕圓形ヲ呈シ三個ノ隔膜アリ然レドモ若キトキハ一個ノ隔膜アリテ中ニ二個乃至四個ノ油球アリ成熟スレバ平滑トナル長サ五〇乃至七五「ミュー」幅八乃至十二「ミュー」アリ無色透明ナリ尚ホ芽胞ノ先端ニ三本ノ分岐シタル附屬毛ヲ有ス時トシテ基部合一シテ一本トナルコトアリ長サ五〇乃至一〇〇「ミュー」幅、〇五乃至一「ミュー」アリ胞子成熟スレバ表面ヲ破リテ芽胞出ヅ

あらがし *Quercus glauca* 土佐(吉永)、駿河(鶴田)ニ生ズ

Coccoidiaceae ノ位置　以上ノ記述ニヨリ本科ニ屬スル菌類三屬三種アリシガ一屬一種トナリタリ且コレニ *Coccodiella* ヲ加ヘテ一科二屬二種トナリタリ卽チ

胞子暗色ニシテ二細胞ナリ——*Coccoideae*

ト *Coccotiscus* トハ異名同屬ナルコト明ニシテ從テ學名ハ *Coccoidea quercicola* P. Henn. et Zur. ヲ用ヒ *Coccotiscus quercicola* P. Henn. ヲ異名トナスベシト雖モ記載ニヨレバ前者ノ芽胞ハ無色一細胞ニシテ後者ノ芽胞ハ一細胞ナレドモ暗色ヲ帶ブトアリ故ニ直ニ之ヲ用ユル能ハズ左ノ如ク *Coccoidea* ノ特徵ヲ訂正スレバ可ナランカ

Coccoidea, P. Henn. 子座ハ僞肉質平圓盤狀ヲナシ下面ハ中央ニ柄狀附屬物アリテ寄主ニ附著シ緣邊ハ附著セズ黑色ヲ帶ブ子囊殼ハ子座中ニ埋沒シ球形ナリ子囊ハ棍棒狀ヲナシ八個ノ芽胞アリ芽胞ハ卵形一個ノ隔膜アリテ二細胞ヨリ成ル暗色ナリ絲狀ナル絲狀體ヲ有ス

Coccoidea quercicola 子座ハ葉ノ裏面ニ生ジ散在スルカ又ハ群生ス僞肉質平圓盤狀ナリ其ノ下面ノ中央ニ柄狀附屬物アリテ葉ニ附著シ緣邊ハ附著セズ一、五乃至二、「ミメ」ノ直徑アリ黑色ヲ帶ブ表面ニ細點アリテ粗ナリ子囊殼ハ子座ニ沈在シ球形橢圓形ニシテ二〇〇乃至二三〇「ミュー」ノ直徑アリ口孔ヲ有ス子囊ハ棍棒狀基部アリ八個ノ芽胞ヲ含藏シ長サ六〇乃至七〇「ミュー」幅一五乃至二〇「ミュー」アリ絲狀體ハ絲狀無色ニシテ一「ミュー」ノ幅アリ芽胞ハ子囊中ニ二列若シクハ不規則ニ三列ニ生ジ卵形又ハ廣橢圓形一隔膜アリテ大小二個ノ不整ナル細胞ニ分タレ其大ナル細胞ニハ一個乃至二個ノ油球ヲ有シ其小ナル細胞ハ稍々乳頭突起狀ヲナス暗色ヲ帶ビ長サ八乃至一一「ミュー」幅五、五乃至八「ミュー」アリ

うらじろがし *Quercus myrsinaefolia* Bl. ノ生葉ニ寄生ス伊豆(白井)、東京(草野及原)、土佐(吉永)、美濃(原)、いちゐがし *Quercus gilva* Bl. 土佐(吉永)

あらがし *Quercus glauca* Thunb. 駿河(鶴田)

しひ *Pasania cuspidata* Oerst. 土佐(吉永)等ニ寄生ス

新屬 *Yoshinagaia* ハ P. Hennings 博士ノ記載ニヨレバ子囊ヲ有シ Coccoidiceae ノモノヽ如クナレドモ予ガ大學所藏吉永氏採集ノ基本標本及ビ前記鶴田氏採集標本ヲ檢スルニ全ク子囊ヲ有セズシテ分生子殼中ニ *Pestalozzia* ニ

Coccoidiaceae ニ就テ(圖版一、圖解ハ圖版ノ前頁ニ在リ)

原　攝祐

Hara, K.:—On Coccoidiaceae.

Coccoidiaceae ナル科ハ P. Hennings 博士ガ一千九百〇六年隰花植物學雜誌(Hedwigia)紙上ニ發表セラレタルモノニシテ博士ハコレニ屬セシムルニ *Coccotiscus, Yoshinagaia* ノ二屬ヲ以テシ且ツ同博士ガ一千九百二年エングラー氏植物年報(Engler's Botananische Jahrbücher.)ニ於テ記載セラレタル *Coccoidea* ヲモ隷セシメラレタリ明治四十四年二月靜岡縣農事試驗場技手鶴田章逸氏ヨリ送附ノ標本中ニ *Coccoidea* 及ビ *Yoshinagaia* アリコレニヨリ檢査シタルニ P. Hennings 博士ノ記載中不精確ノ點アルヲ發見シ且ツ東京近傍ヲ採集シテ多クノ *Coccoidea* ヲ得テ之ヲ精檢シタルニ益々本屬ニ就テ P. Hennings 博士ノ所見ノ穩當ナラザルニ氣付キタレバ白井先生ガ嘗テ伊豆ニテ採集セラレタル *Coccoidea quercicola* ノ基本標本ヲ再檢シ及ビ東京帝國大學農科大學所藏ノ吉永虎馬氏採集幷ニ同氏ガ予ガ求メニ應ジ送附セラレシ *Yoshinagaia* ノ基本標本ヲ檢査シタル結果ヲ左ニ報ゼン然シテ是等二菌ハ初メ葉ノ表皮ヲ破リテ小黑粘點ヲ生ジ後生長シテ一定ノ大サニ達シ時日ヲ經ルトキハ小黑粒點飛散シ其附着部ニ圓形ノ斑點ヲ生ジ後穴ヲ生ジ其數多キトキハ葉ハ遂ニ枯死スルニ至ルヲ以テ寄主ニ有害ナル作用ヲナス

新屬 *Coccotiscus* ハ先ニ發表セラレタル新屬 *Coccoidea* ニシテ前者ハ後者ノ成熟シテ芽胞ニ色ヲ帶ビタルモノニ外ナラズ卽チ白井先生ガ伊豆ニテ採集セラレタルモノハ芽胞ノ未ダ成熟ニ至ラザルモノ多カリキ次テ昨年予ガ東京附近ニテ採集セルモノハ同一標本中伊豆產ノモノヽ如ク未熟ノ胞子ヲ有スルモノト已ニ成熟シテ着色セル二細胞ヨリ成ル芽胞ヲ有スルモノトアリタリ又 P. Hennings 博士ガ *Coccotiscus* ヲ記載セラルヽニアリタリ一細胞ヨリ成リ芽胞ノ一端ニ乳頭突起狀ノ附屬物アリトセラレタリ然ルニ予ガ研究ニヨレバ一個ノ橫隔膜ヲ有シ二細胞ヨリ成リ其內一個ノ細胞ハ頗ル小ニシテ乳頭突起狀ヲ呈スルナリ吉永虎馬氏ノ研究モ同一ナリシ是ニヨリ之ヲ觀レバ *Coccoidea*

37. Violaceae　菫菜科

92. *Viola odorata* L. にほひすみれ

38. Zingiberaceae　蘘荷科

93. *Zingiber Mioga* Rosc. めうが

此等種類ノ病原菌ニ就テハ各々肉眼的幷ニ顯微鏡的ニ精檢シ同一種ナルヲ認メ且ツ其大多數ニ就テ互ニ菌絲ヲ交換シテ接種試驗ヲ行ヒ皆感染スルヲ確メタリ卽チ瓜類白絹病菌ハ此等ノ植物ヲ侵害シ疾病ヲ起サシム

五　分布及發生時期

此發生地トシテ旣ニ獨逸、佛蘭西、アルゼンタイン、ポーローニア、爪哇、日本等記述セラレ本島ニモ亦之レヲ發見ス而シテ本島ニ於テハ殊ニ其害烈シク臺北、嘉義、臺南、恒春、臺東等殆ンド到ル處ニ發生ス而シテ其發生時期ニ就テハ調査ノ結果一月ヨリ十二月ニ至ルマデ年中繼續シテ發生スト雖モ其最モ多キハ六月ヨリ九月ニシテ七月ニ其頂點ニ達ス而シテ十二月一月ニハ最モ少ナシ

六　驅除豫防法

一、苗床及苗移植後ニ於テ莖ノ地際ニ木灰ヲ撒布シ置ク時ハ此病害ヲ豫防シ得ベシ

二、圃場ニ於テ此發生ヲ認メタル時ハ被害植物ヲ拔取リ菌核ヲ落サヾル樣燒却スベク猶其處ニ木灰ヲ布クベシ

三、南瓜、西瓜、甜瓜等ノ如ク地面ニ匍匐セシメテ栽植スルモノハ地面ニ接スル所殊ニ敷藁ニ接觸スル所ヨリ發病スルモノナレバ時ニ地面ニ木灰、濃厚木灰水、又ハ二斗式「ボルドー」合劑ヲ撒布スベシ

四、藁ノ上ニハ本病菌ハ頗ル發育スルモノナレバ敷藁ノ目的ニハ他物ヲ用フベシ

五、作物ノミナラズ多クノ雜草ニモ發病スルモノナルヲ以テ圃場畦畔等ニ生ズル雜草上ニ注意シ發病スルモノアラバ速ニ驅除スベシ

六、多クノ植物ヲ侵害スルヲ以テ發病地ニ使用シタル耕作用具及家畜ハ注意シテ洗滌シ後地圃ニ使用スベシ（未完）

77. *Lycopersicum esculentum* Mill. のとまと
78. *Lycopersicum esculentum* Mill. とまとう
79. *Nicotiana Tabacum* L. たばこ
80. *Solanum Melongena* L. なす
81. *Solanum nigrum* L. いぬほほづき
82. *Solanum tuberosum* L. じやがたらいも

32. Theaceae　山茶科

83. *Thea sinensis* L. ちや

33. Tiliaceae　田麻科

84. *Corchorus capsularis* L. つなそ

34. Umbelliferae　繖形科

85. *Cryptotenia japonica* Hassk. みつば
86. *Daucus Carota* L. にんじん

87. 一種　角菜

35. Urticaceae　蕁麻科

88. *Pilea peploides* H. et A. いけみづ

36. Verbenaceae　馬鞭草科

89. *Clerodendron fragrans* Neut. やえざきくさぎ
90. *Duranta Plumieri* Jacq. たいわんれんげう
91. *Verbena officinalis* L. くまつづら

○臺灣ニ於ケル作物ノ白絹病　澤田

66. *Abutilon striatum* Dicks. しやうじやうくわ
67. *Hibiscus canabinus* L. あんばりへんぷ
68. *Gossypium herbaceum* L. わた

23. Marantaceae　葛鬱金科

69. *Maranta arundinacea* L. くずうこん

24. Moraceae　桑科

70. *Morus alba* L. くわ

25. Musci　蘚類

71. *Trematodon longipellus* Besch.

26. Oleaceae　木犀科

72 *Jasminum Sambac* Ait. もうりんくわ

27. Passifloraceae　西蕃蓮科

73. *Passiflora coerulea* L. とけいさう

28. Pedaliaceae　胡麻科

74. *Sesamum indicum* L. ごま

29. Pinaceae　松杉科

75. *Cryptomeria japonica* Don. すぎ

30. Polygonaceae　蓼科

76. *Fugopyrum esculentum* Moench. そば

31. Solanaceae　茄科

49. *Cinnamomum Camphola* Nees. et Ebe. くすのき

20. Leguminosae　豆科

50. *Arachis hypogaea* L. なんきんまめ
51. *Bauhinia* sp. はうびにあ
52. *Canavalia ensiformis* DC. なたまめ
53. *Cicer arietinum* L. (C heck pea)
54. *Glycine hispida* Max. だいづ
55. *Indigofera arrecta* Hochst. なたるこまつまざ
56. *Medicago perviflora* Desf しながはぎ
57. *Medicago sativa* L. むらさきうまごやし
58. *Phaseolus vulgaris* L. いんげんまめ
59. *Trifolium hybridum* L. (Alsike clover)
60. *Trifolium pratense* L. あかつめくさ
61. *Trifolium repens* L. しろつめくさ
62. *Vicia Faba* L. var. *equina* Pers. そらまめ
63. *Vigna sinensis* Hassk. さゝげ

21. Liliaceae　百合科

64. *Allium Cepa* L. たまねぎ
65. *Allium fistulosum* L. ねぎ

22. Malvaceae　錦葵科

行發日十二月五年五十四治明

33. *Manihot utilisima* Pohl. いものき

16. Gramineae　禾本科

34. *Alopeculus pratensis* L. おほすゞめのてつぽう

35. *Andropogon Sorghum* Brot. もろこし

36. *Avena elastica* (Tall oat grass.)

37. *Avena flavescens* L. (Yellow oat grass.)

38. *Avena sativa* L. からすむぎ

39. *Dendrocalomas latiflorus* Munro. まちく

40. *Eleusine coracana* Gaertn. しこくびえ

41. *Lolium italicum* A. Br. (Italian rye grass.)

42. *Oryza sativa* L. いね 水陸稻

43. *Poa serotina* Ehrh (Fowl meadow grass)

44. *Saccharum officinarum* L. さとうきび

45. *Setaria italica* Kth. あは

46. *Zea Mays*, L. たうもろこし

17. Hepaticae　苔類

47. *Anthoceros laevis* Lindb. つのごけ

18. Labiatae　唇形科

48. *Mentha arvensis* L. var. *piperascens* Holm. はくか

19. Lauraceae　樟科

17. *Coreopsis tinctoria* Nutt. はるしやぎく
18. *Cosmos bipinnatus* Cav. おほはるしやぎく
19. *Eupatorium chinensis* L. var. *tripartitum* Mig. みつばひよどり
20. *Helianthus annuus* L. ひまわり
21. *Helianthus tuberosus* L. きくいも
22. *Lactuca* sp. 萵苣菜
23. *Taraxacum Dens-leonis* Desf. あめりかたんぽゝ
24. *Xanthium strumarium* L. をなもみ
25. *Zinnia elegans* L. ひやくにちさう

12. Convolvulaceae　旋花科

26. *Ipomaea Batalus* Lam. さつまいも

13. Cucurbitaceae　胡瓜科

27. *Citrullus vulgaris* Schrad. すゐくわ
28. *Cucumis Melo* L. まくわうり
29. *Cucumis sativus* L. きうり
30. *Cucurbita Pepo* L. かぼちや
31. *Lagenaria vulgaris* L. ゆうがほ

14. Cyperaceae　莎草科

32. *Cyperus Iria* L. いぐめがやつり

15. Euphorbiaceae　大戟科

行發日十二月五年五十四治明

4. Araliaceae　五加科

5. *Fatsia papyrifera* Benth. et Hook. かみやつで

5. Bignoniaceae　紫葳科

6. *Stereospermum sinicum* Hance. せんだんもどき

6. Cariceae　蕃瓜樹科

7. *Carica papaya* L. ばんしゅうど

7. Coryophyllaceae　石竹科

8. *Dianthus sinensis* L. せきちく

8. Chenopodiaceae　藜科

9. *Beta vulgaris* L. ふだんそう

10. *Beta vulgaris* L. var. くわでんさい

11. *Kochia scoparia* Schrad. はゝきぎ

9. Chloranthaceae　金粟蘭科

12. *Chloranthus inconspecuus* Sw. ちやらん

10. Commelinaceae　鴨跖草科

13. *Commelina nudiflora* L. しまつゆくさ

11. Compositae　菊科

14. *Centaurea Cyanus* L. やごるまぎく

15. *Chrysanthemum cinerariifolium* Bocc. しろはなむしよけぎく

16. *Coreopsis Drummondii* Torr. et Gr. おんけいぎく

形柔軟組織狀ノ細胞ヨリ成リ褐色ナリ內方漸次心髓ト化ス心髓ハ無色ニシテ密ニ錯綜シ且ツ強ク光線ヲ屈折スル菌絲ヨリ成ル發芽シテ菌絲トナル

瓜類白絹病菌擔子胞子及菌族ノ斷面
Reichert 4×7a

被害局部及其地上ニ微細ナル白粉ヲ布キタル如キ觀ヲ呈スル子實層ヲ形成ス擔子囊ハ密ニ分枝セル菌絲ノ先端ニアリ無色長倒卵狀ニシテ大サ九－二〇×五－七〃アリ其頂ニ四個ノ小梗ヲ著ク小梗ハ細クシテ稍々彎曲シ長サ三－七〃アリ其頂端ニ各一個ノ胞子ヲ著生ス胞子ハ無色單胞平滑ニシテ基部少シク斜形ナル倒卵狀ナリ大サ五－一〇×三·五－六〃アリ

四　被害植物

本病菌ノ被害植物トシテハ胡瓜、馬鈴薯、南瓜、苜蓿等其幾種アルヲ知ラザレドモ本島ニ於テハ實ニ其蔓延盛ンニシテ余及藤黑與三郎氏ノ調査ニヨレバ實ニ三拾八科九拾三種ニシテ內栽培植物七十九種野生植物十四種アリ左ニ此等ヲ分科シテ揭グベシ

莧　科

1. *Achyranthus mangostanus* L. ひゆ

石蒜科

2. *Amaryllidaceae*
2. *Agave rigida* Mill. var. *sisalana* しざるあさ

天南星科

3. *Zeplyranthes candida* Herb たますだれ
3. Araceae
4. *Colocasia antiquorum* Schott みづいも

出田新－日本植物病理學 p. 605, 914., 1911.

syn. *Hypochnus Solani* Prill. et Delacr.

Saccardo－Syll. Fung. vol. XI. p. 130.

Frank－Die Krankh. d. Pfl. II. p. 219., 1896,

Tubeuf－Diseases of plants. p. 428., 1897.

Massee－Textbook of Plant Diseases. p. 172, 398., 1899.

Prillieux－Malad. des Plant. Agric. et d. Arb. Fruit. et Forest. I. P. 302.

出田新－日本植物病理學 p. 656., 1911.

Syn. *Hypochnus Theae* Bernard.

Bernard－Sur Quelque Malad. d. Thea assamica, d. Ficksia elastica et d. Hevea brasiliensis. p. 16., 1907.
Journal D,Agric. Tropic., 1907.

Syn. *Corticium centrifugum* (Lév.) Bres.

Ann. Mycol. vol. I. no. I. p. 96.

Syn. *Sclerotium castaneum* Speg.

Stegazzini—Fungi Argentini. p. 135., 1881.

菌絲ハ白色ニシテ最モ古キモノハ少シク褐色ヲ帶ビ兩叉分枝シ中隔ヲ有シ強ク光線ヲ屈折シ内ニ多クノ空胞ヲ容ル直徑三－九〃アリ時ヲ經レバ菌絲ノ一部密ニ分枝シ集マリテ錯綜シテ菌核トナル

菌核ハ初メ白色頭狀ニシテ粗面ナレドモ漸次栗褐色平滑トナリ球形、卵狀、楕圓狀、又二三融合セル如キモノアルモ概シテ球形ナリ大サ〇·五－四×〇·五－一·五〃アリ球狀ノモノハ直徑〇·五－一ミ、メ、アリ濕室内ニテ形成セラレタルモノハ多ク〇·五－一·五ミ、メ、ノ直徑アリ之レガ斷面ヲ作リテ顯微鏡下ニ窺ヘバ外皮及心體ノ別アリ外皮ハ多角

ニハ局部變色凹陷腐敗シ水ノ上昇ヲ防止シ一時ニ枝葉ノ萎凋ヲ來シ恰モ青枯病ニ罹レル如キ狀トナリ日ナラズシテ全ク枯死ス而シテ近隣ノ植物ニモ地ニヨリテ傳染シ一群ノ枯死ヲ來スコトアリ被害局部及其地上ヲ注視スレバ球狀栗褐色ナル粟粒狀物ノ數多存在スルヲ見ルベシ之レ其菌絲ガ集マリテ塊トナリ耐久的繁殖機關卽チ菌核ヲ形成セルナリ菌核ハ永ク生活ヲ保持シ後適當ノ溫度ト濕氣トニヨリテ發芽シ再ビ菌絲トナル又同所ニ白色粉狀物ノ布ケルヲ見ルコアリ之レ其子實層ニシテ密ニ幷ベル擔子囊上ニ胞子ヲ形成ス胞子ハ一時的ノ繁殖ヲ掌リ發芽シテ菌絲トナル

三　病原菌

Hypochnus centrifugns (Lév.) Tul.

Saccardo—Syll. Fung., vol. VI. p. 654.; 1888

Syn. *Hypochnus Cucumeris* Fr.

Hedwigia. XXII no. 8. p. 127.

Saccardo—Syll. Fung., vol. VI. p. 657., 1888.

Frank—Die Krankh. der Pflanzen. Band. II. p. 219., 1896.

Tubeuf—Diseases of Plants. p. 428., 1897.

Massee—Text Book of Plant Diseases. p. 171, 398., 1899.

Prillieux—malad. d. Plant. Agric. et des Arb. Fruit et Forest. Tome I. p. 301.

白井光太郎—最近植物病理學 p. 353., 1903.

堀正太郎—農作物病學 p. 203. 1903.

山田玄太郎—植物病理學 p. 331., 1904.

澤田兼吉—樟白絹病ニ就テ(臺灣農事報第四十九號 (1910)

Sorauer—Handb. d. Pflanzenkh. II. p. 382. 1908.

Hypochnus Theae Bernard.

Forme des cordons feutrés, blanchâtres-rosés, plus ou moins ramifiés et anastomosés, qui courent sur les branches jeunes et forment un hyménium finement pulvérulent à la face inférieure des feuilles. Les hyphes hyalins, septés et ramifiés dichotomiquement, sont enchevêtrés de façon peu dense, ils mesurent 4—6μ de diamètre, les basides sont dressés, peu serrés, longues de 20—25μ et larges de 6—8μ, elles portent 4 sterigmates dressés aciculés, mesurant 6—8μ, et portant chacune une conidie elliptique hyaline, lisse, à parois in colores, et dont les dimensions atteignent 7—9μ sur 5—7. Hab. sur les buissons de Thé à Java.

余ガ本島ニ於テ茶ノ上ニ發見セルモノハ確カニ瓜類白絹病菌ニシテ他ノ被害植物ニ接種シテ同一ノ病徴ヲ生ジタリ其菌絲ハ葉上ニアリテ幾分紅色ナル見エヲ有シタリキ此等ノ種類ハ余ガ多クノ植物上ヨリ得タルモノニ比較對照スルニ性狀其他ニ就テ符合ス卽チ瓜類白絹病菌ト同種ナリト認ム而シテ他ノモノヲ其最モ古クシテ且ツ其當ヲ得タル *Hypochnus centrifugus* (Lév.) Tul. ノ同物異名トシテ取扱ハントス卽チ瓜類白絹病ハ *Hypochnus centrifugus* (Lév.) Tul. 菌ニヨリテ起ル病害ナリ、

二　病徴

本病ハ重ニ莖ノ地際ニ起リ組織糜爛シ水及養分ノ上昇ヲ防止シテ遂ニ枯死セシム植物ノ種類ニヨリテ其病徴ニ幾分ノ差違ヲ生ズ卽チ甘蔗陸稻等ノ如キ禾本科植物ニアリテハ重ニ葉鞘ニ起リテ葉ノ枯死ヲ來シ蕃茄菜豆ノ如キ雙子葉草本又ハ稍々柔カキ植物莖ニ於テハ局部凹陷シ樟桑ノ如キ硬キ莖ニアリテハ只ニ變色スルニ止マリ又杉苗ノ如キモノニアリテハ枝端ニ至ルマデ侵害サレテ枯死ス又樟ノ葉ニ於テハ輪斑ヲ生ジ遂ニ落葉セシム、被害實ニ多大ニシテ且ツ迅速ナリ若キ植物ニアリテハ一晝夜ニシテ倒仆枯死シ稍、大ナル植物ニ於テハ約十數日ニシテ枯死スルヲ見ル本島ニ於テハ最モ恐ルベキ病害ノ一ナリ

初メ莖ノ地際ニ白色蜘蛛巢狀乃至密ニ併列シテ薄膜狀トナル菌絲ヲ生ジ莖ニ附著シ漸次其周圍ヲ圍繞シ終リタル頃

capitula velutina, alba, quae sensim glabrescunt et fuscescunt.

此記載ヲ見ルニ胞子ノ大サハ五－七×三·五 μアリテ瓜類白絹病菌ノソレト稍ゝ異ルガ如キモ余ガ檢シタル大サノ一部ニシテ其性狀菌核等皆符合ス

又 Briosiola 氏ハ Fungi Polonici 中ニ記述セシ *Corticium centrifugum* (Lév.) Bres. ナル菌類アリ之レ胞子ノ時代ノミヲ發見シ前者ヲ *Corticium* 屬ノモノナリトナシタルモノナルベシ其記載ヲ再揭スレバ

Corticium centrifugum (Lév.) Bres.

Sporae hyalinae, oblongae 5－7×3－4 μ; Basidia clavata, 20－25×5－6 μ; hyphae tenues, septato-nodosae, 3－5 μ. Sclerotia non vidi,

Hab. ad truncos Betulae, Populi et Pini per annum.

又西曆一八八一年 Spegazzini 氏ハ Fungi Argentini. p. 135. ニ *Sclerotium castaneum* Speg. ナル菌類ヲ揭載セリ其記述スル所ヲ見ルニ

Sclerotium castaneum Speg

Globosum v. obsidenm (1·5－2mm diam.), pulchre et intense castaneum, superficiale, glaberrimum, ætate levissimum, siccum contractum, rugulosum, fuscescens, dense gregarium; cutis tenuis nucleo albata, parenchymatica, cellulis subglobosis (10－15 diam.), fuligineo-castaneis; nucleus albus, compactus, duriusculus, e cellulis subglobulaceis, brevibus, contortis, geniculatis, simplicibus v. brevier ramulosis, apicibus incrassatis (10 diam.) dense et strigose intertextus.

Hab. ad partem inferiorem pericarpi putrescentia Cucurbita peponis, nec non ad terram ramentaque circumvicinia, in hortis, Boca del Riachnel, Maj. 1881.

其後一九〇七年 Bernard 氏ハ爪哇ニ於テ茶ノ上ニ發見シ菌絲ノ色彩微カニ薔薇色ヲ呈スルコトヲ以テ Hypochnus Thiene Bernard, ナル新名ヲ與ヘタリ其記載ヲ見ルニ

行發日十二月五年五十四治明

VI. p. 657. ニ掲ゲタルヲ轉寫スレバ

Hypochnus Cucumeris Fr.

Membranacco-fibrillosus, griseus vel brunneo-griseus; basidiis elongatis apice sterigmata 4 gerentibus; sporis ovoideis, hyalinis. Hab. in parte inferiore caulium usque ad plura centimetra altitudin. Cucumeris, quem enecat in Germania. Folia planta infectae flavescunt, dein pereunt.

又プリュー (Prillieux) 氏及デラクロワール (Delacroir) 氏ハ佛國グリーギョンニ於テ白絹病菌ヲ馬鈴薯ノ上ニ發見シ其病原菌ハフランク氏ノ胡瓜ニ於ケルモノト差違スルヲ以テ其學名ヲ *Hypochnus Solani* Prill. et Delacr. ト命名セリ而シテ或ル著者ハ此等ヲ同物ナリトシ又或ル著者ハ全ク異レル種類トシテ記述セリサッカード氏ノ其記載ヲ見ルニ

Hypochnus Solani Prill. et Delacr.

Membrana effusa, tenuior, leviter granulosa, siccitate rimosa, cuticulae vix adhaerens, griseo-albida parte interiori fuscidula; basidiis ovato-globosis subelongatisve, superne rotundatis; sporis hyalinis, ovatis, basi apiculatis, 10×6.

Hab. ad caulem Solani tuberosi, Aequatoria.

是ヨリ先西曆一八六一年 Julasne 氏ハ Selecta Fungorum Carpologia. I. ニ記述セシ白絹病菌 *Hypochnus centrifugus* (Lév.) Tul. アリ其 Saccardo-Syll. Fung. vol. VI. p. 654. ニ再掲セラレタルモノヲ轉寫スルニ

Hypochnus centrifugus (Lév.) Tul.

Albus, arancosus, filamentis ramosis tenuissimis orbiculatim expansis; tuberculis mycelicis (Sclerotiis) sparsis, villosis, subglobosis, sclerotioideis, 1—3mm.long.

Hab. ad truncos arborum et ad Muscos et lichenes in Gallia,—Basidia obovato-elongata 10—20μ longa, obtusa, in apice hypharum caespitose conferta, 2—4—sterigmica; sporae ovoideae, leves, hyalinae 5—7×3·5. Sclerotia initio sistunt

植物學雜誌第二十六卷　第三百五號　明治四十五年五月二十日

臺灣ニ於ケル作物ノ白絹病

澤田兼吉

Sawada, K.:—*Hypochnus* on cultivated plants in Formosa.

第一章　緒言

白絹病ハ作物栽培上最モ恐ルベキ病害ノ一ニシテ我國ニ於テ既ニ知ラレタルモノ三種アリ一ハ瓜類白絹病二ハ馬鈴薯白絹病三ハ樟白絹病ナリ是等ノ病害ハ本島ニモ發生シ其蔓延殊ニ烈シク野菜、穀類其他重要作物ヲ害スルコト實ニ甚シ余ハ本島ニ來リテ是等ノ慘激ナルヲ傍觀スルニ忍ビザルモノアリ乃チ是等ノ調査研究ニ著手シ聊カ知リ得タルコトアリ又他ニ二種ノ白絹病菌ヲ發見シ得タリ淺學ノ身ヲ以テ之レヲ記シ公ニスルハ頗ル大膽ニ過ルモノアリト雖モ亦全ク棄ツベキニ非ザルヲ思考シ其大要ヲ記述シテ世ニ問フニ至レリ冀クハ諸賢ノ高敎ヲ垂レラレンコトヲ此研究中卑益ヲ與ヘラレタル川上瀧彌氏及ビ有力ナル發見ト多大ナル助力トヲ與ヘラレタル藤黒與三郎氏ニ對シ深謝ノ意ヲ表ス

第二章　瓜類白絹病

一　總說

瓜類白絹病ハ我國ニ於テハ最モ古クヨリ知ラレタルモノニシテ其學名ヲ *Hypochnus Cucumeris* Fr. ナリトセリ本病菌ハフランク（Frank）氏西曆一八八二年獨逸國伯林ニ於テ之レヲ胡瓜ノ上ニ發見シ斯ク命名シ Hedwigia, Band XXII No. 8. ニ掲載シタリ而シテ氏ノ記述スル所ヲ見ルニ其病徴病原菌ニ就テ記シタルモ惜ムラクハ病原菌ノ大サ及菌核ヲ形成スルコトヲ記セザリキ其後多クノ著者ハ之レニ從ヒテ記述セリ其サッカード氏ノ Sylloge Fungorum. vol.

ベク只ニ蟲癭研究者ニトリテ良好ノ指導書タルノミナラズ一般ノ植物學者竝ビニ昆蟲學者等ニモ好參考書ノ一ナルベシ(I. S.)

○ヴィルマン『菌類(分類學汎論)』

Vuillemin, Paul: Les Champignons—(Essai de Classification), 1912.

本書ハツールーズ氏(Dr. Toulouse)主宰ノモトニ編述セラレントスル科學全書(Encyclopédie Scientifique)ノ隱花植物部ノ第二編トシテ發行セラレタルモノニシテ頁數百二十五。先ヅ緒言ニ始マリ全編ヲ第一編不連續的分類法第二編連續的分類法第三編細胞學的分類法第四編生態學的分類法ノ四編ニ分チ最後ニ引用書目人名索引竝ビニ術語索引ヲ添ヘタリ。

從來菌類ノ分類學ハ本草學ト一般單ニ其ノ形態ヲ記述シ一定ノ類目中ニ排置スルニ過ギザル程極メテ人爲的ノモノナリシガ「個體發生ハ系統發生ヲ反覆スルモノナリ」テフ學說ニ準據シ其ノ研究ノ歩ヲ進ムルニ及ンデ種類間ノ連絡モ亦個體發生ノ過程ニ於ケル同一植物ノ形態ノ變化ノ整齊ナルニ似タル所アルヲ以テ其分類法モ稍ヤ系統的ニ進歩スルニ至リ且ツ顯微鏡査術ノ進歩ニ伴ヒ細胞學ノ發達ヲ促シ菌類相互ノ關係益々明瞭ノ度ヲ加ヘ其ノ分類モ益々完全ノ域ニ進ミ遂ニハ生活細胞ノ物理化學的反應ヲ比較シ以テ菌種相互ノ密接ナル緣屬ヲ明ニセントシ生態學的分類法トナルニ至レルモノトス。

本書ハ實ニ此不連續的ナル人爲分類ヨリ生態學的自然分類ニ移レル菌類分類學ノ變遷史ト見做ス可キモノニシテ能ク諸家ノ考說ヲ引載シ之レヲ批判シタレバ之ニヨリ菌類學ニ關スル考說ノ概要ヲ知ルニ足ルノミナラズ輓近生物學ノ分類學的思索ノ傾向ヲ示スモノナルガ故ニ著者ガ Progressus rei botanicae ニ投載セル Les bases actuelles de la Systématique en mycologie, 1907. ト竝ビ植物學研究者ノ一讀ヲ値スベキ書ナリ。O. Doin et Fils, Editeurs, Place de l'Odeon, Paris (6e) ノ發行ニカヽリ定價五法ナリ。(小南)

◎東京植物學會錄事

○入會

仙臺市宮城病院藥局　(安田篤氏紹介)　南部洋

○轉居

東京府下豐多摩郡杉並村、原蠶種製造所　石渡繁胤

纏リタルモノナク伊藤老博士ノ小石川植物園草木圖說、牧野氏ノ日本植物志圖編、顯花植物圖說、矢田部博士ノ日本植物圖解等數多アレドモ悉ク不幸中絕シ久シク此ノ如キ學術的事業ノ出デザルヲ憾ミトセシガ前書ト此著ト相次ギテ出版セラル、ニ逢フ、實ニ盛代ノ美事ニシテ、前者ハクルチス植物雜集(Crutis Botanical Magyzin)ニ比スベク後者ハフーカー氏植物圖說(Hooker's Icones Plantarum)ニ較ブベク、實ニ此二大圖說ノ出版ハ吾人植物學ヲ學ブモノヲシテ我ガ植物學ガ急ニ我ガ同盟國ノ班ニ列セシカノ如キ感ヲ起サシムルニ足ルベク予ハ此ノ著ノ長ヘニ續々刊行セラレンコトヲ祈リテ止マザルモノナリ、松村先生ノ此圖編ニハ理科大學植物教室ニ關係セル新進有爲ノ植物學者ガ其日常研究セル所ヲ圖說シ之ヲ集錄セルモノニシテ記事文ハ羅甸語ヲ以テ要領ヲ揭ゲ精細、通俗、應用等ノ記事ハ邦文ヲ以テ記サレ圖ハ無彩色、極メテ鮮明ナリ、第一集ニハふきやみつば、えぞえのき、ばいかるいちげ、ぬかぼしたで(以上中井學士圖說)おほばつゝじ、うらしまつゝじ、はりがねかつら、やしやびしやく(以上小松學士圖說)Acer sinense Pax, Acer Maximowiczii Pax, Acer Davidii Fr, Acer robustum Pax.(以上小泉氏圖說)たにへご、きよたきしだ、ふじしだ、きくしのぶ(以上兒玉學士圖說)等アリ(矢部)

○クュスター氏『蟲癭論』

E Küster; Die Gallen der Pflanzen (Ein Lehrbuch für Botaniker und Entomologen) mit 158 Abbildungen. 437 p. 1911. Leipzig. Verlag von S. Hirzel. 16M.

本書ハ從來ノ多クノ蟲癭ニ關スル研究ヲ取捨區分シ是ニ氏自身ノ研究評論ヲ加ヘテ蟲癭ノ全般ノ性質ヲ敎科書的ニ記述シタル者ニシテ序論ニ蟲癭研究ノ歷史、目的、方法、蟲癭ノ命名法等ニツキテノベ第一章ニハ蟲癭ヲ造ル動物(蠕蟲及ビ節足類)及ビ植物(變形菌、細菌、藍藻、藻類、菌類、顯花植物)ノ重ナルモノヲ擧ゲテ說明シ第二章ニハ蟲癭ヲ著生スル植物ヲ藻、菌、苔、蘚、羊齒、裸子、被子ノ順ニヨリ大略ヲ說明ス、第三章ニハ蟲癭ノ著生スル位置、蟲癭ノ形狀、區分等外部ノ狀態ニ關スル事ヲ說明シ第四章ニハ蟲癭細胞及ビ組織ノ狀態竝ビニ變化等解剖學的方面ヲ說明シ第五章ニハ蟲癭ニ關スル化學的ノ事柄ヲ說述シ第六章ニハ蟲癭生成ノ原因竝ビニ是ニ關スル古來ヨリノ學說等ヲ詳述ス第七章ハ蟲癭ノ生態學ニシテ蟲癭ノ誘起者ト著生植物、誘起者ト蟲癭、蟲癭ト寄主植物、蟲癭ト他ノ生物トノ間ノ關係等ヲ述ブ附錄トシテ動物體ニ於ケル蟲癭類似體ニ關スル研究ノ大要ヲ述ブ、

本書ハ蟲癭ノ全般ニ通ゼル著書トシテハ最初ノモノナル

tt. 2901—2925.

一、支那ノつりふねさう(New *Impatiens* from China.)—Kew Bulletin (1910) pp. 269—275.

一、印度ノつりふねさう(Generis *Impatiens* Species Indiae Novae et minus rite cognitae)—Kew Bulletin (1910) pp. 291—300.

一、チトラール州ノつりふねさう科(On the Balsaminaceae of the State of Chitral.)—Kew Bulletin (1911) pp. 209—211.

一、馬來ノつりふねさう(On Some species of *Impatiens* from the Malay Peninsula)—Kew Bulletin (1911) pp. 249—250.

氏ノ絕筆ニシテ亦此屬ニ關スルモノハ Icones Plantarum XXXV. 3rd part (1911) ヲ以テ發表セラル圖版ノ數二十五アリ

其他氏ノ大著述英領印度植物誌(七卷)中ニモ此屬ノ植物ヲ記載シタルコトハ勿論ナリ

數年前氏ハ特ニ我東京帝國大學植物學敎室ニ囑シテ日本ニ產スル本屬ノ植物標本ヲ求メラレタルコトアリシガ喜ンデ其需メニ應ゼラレタリト聞ケリ而シテ氏ノ署名シテ其ノ檢定シタルコトヲ證シタル標本ハ氏ノ歿後ニ至リ該敎室ニ還附シ來レリト云フ此檢定ハ實ニ氏ガ逝去ノ年若クハ其一二年前ニナサレタルモノナリ但シ遺憾ナガラ本邦ニハ此屬ノ植物、數種ニ過ギズ故ニ送附ノ標本ニ就テ氏ガ特ニ報告セラレタル新種ナシト云フ

◎新刊紹介

○伊藤博士著大日本植物圖彙　第一卷

本邦ニ於ケル模範的圖說トセントノ大抱負ヲ以テ公ニセルモノニシテ每月一回一輯宛ヲ出シ每年一卷トスル豫定ニシテ每輯四圖版ヲ收メ所載ノ植物ハ寫生着色刷、記載ハ英和兩文ヲ用キ每種ニ小サキ世界地圖ヲ載セ其種ノ分布ヲ示セリ、第一輯ニハたかさごらん(Vanilla Griffithii var. formosa) ふつぬまそう(Pachysandra terminalis) くさぼけ、みやうが、第二輯ニハまんじゆしやけ、へくそかつら、るりさう、やぶらん、ヲ載セタリ、各種學名ノ異名、邦名ノ數種アルモノ等ハ總ベテ之ヲ錄セリ、從來彩色ノ圖版ナド多少世ニ流布スレドモ到底之等ト日ヲ同フシテ談ズベカラズ、印刷鮮明行文ハ著者特得ノ長アリ、此著ニシテ月ヲ重ネ歲ヲ積ミ數卷乃至數十卷ニ達スルニ至ランカ實ニ本邦植物學界ノ偉觀タラン、(矢部)

○松村博士監修新撰植物圖編第一編第一集

本邦ノ植物ヲ圖說セルモノニハシーボルド氏ノ大著以後

所ナリ二氏ノ合著ニシテ同一ノ責任ヲ負フハ論ナシト雖モフーカー氏ノ分擔ニ係ル分ハ左ノ如クナリト云フ

托花區中ノ十字花科ふうてふさう科、列設多科盤花區ハ殆ド全體氏ノ分擔ニシテ亞麻科、Humariaceae（科ノ譯字不明ナルモノハ直チニ原名ヲ用ユ以下倣之）牝牛兒科ほろぽろのき科ヲ除外ス

蓼花區ニテハ Connaraceae、薔薇科、虎耳草科、景天科、茅膏菜科、金縷梅科、Brunniaceae、ありのたふ科、ひるぎ科、使君子科、野牡丹科、千屈菜科、柳葉菜科、Samydaceae. Loaseae, Turneraceae、とけいさう科、葫蘆科、秋海棠科、Datiscaceae 仙人掌科、蕃杏科及ビ山茱萸科トス

右ニ對シテ盤花區中ベンタム氏ノ分擔ハ苴科、桃金孃科、繖形科及ビ五加科ナリトス

合瓣花類ノ諸科中フーカー氏ノ分擔セルハ茜草科、葱多科、越橘科、石楠科、Epiceridaeae、紫草科、さくらさう科及ビあかてつ科トス

單被花類中、曲胚區（Curvembryeae）ハ紫茉莉科ヨリ Batideae ニ至リ其他此類中猪籠草科、Cytinaceae、及ビ蛇菰科ヲ分擔セリ

單子葉門ニ於テハ椰子科其他裸花區（Nudiflorae）中ニテ天南星科等、離花區（Apocarpae）中ニテ澤瀉科、眼子菜科等ヲ分擔セリ

一、つりふねさう屬（*Impatiens*）ニ關スル著述

氏ハ此ノ類ノ植物ニハ特ニ興味ヲ有セラレタルモノト見エ之レニ關スル著述多シ元來此屬ハ乾腊標本ニ就テ研究スルハ至難ナルモノ、一ナルガ氏ハ其研究ニ從事シテ殆ド易簀ノ時ニ及ベリ而シテ氏ガ屬中ノ新種ヲ記載シタルコト實ニ百五十以上ニ及ブト云フ研究結果ノ發表セラレタルモノハ大抵左ノ如シ

一、支那及ビ交趾支那ノつりふねさう（New Species of *Impatiens* from China and Cochin-China）—Icones Plantarum XXIX, tt. 2851—2875.

一、巴里博物館所藏ノつりふねさう（Les Especes du Genre *Impatiens* dans l'Herbier du Museum de Paris）—Neuvelles Archives du Museum d'Histoire Naturelle de Paris, 4me sér. tome X. Pl. 2—6.

一、印度支那及ビ馬來ノつりふねさう（On some New Species of *Impatiens* from Indo-China and the Malayan Peninsula）—Kew Bulletin (1909) pp. 1—12.

一、菲律賓ノつりふねさう（A Review of the Known Philippine Islands Species of *Impatiens*）—Kew Bullin (1909) pp. 281—289.

一、印度支那ノつりふねさう（*Impatiens* d' Indo-Chine）—Notulae Systematicae I. (1909) pp. 10—14.

一、亞西亞ノつりふねさう（New Asiatic Species of *Impatiens* from various Sources.）—Icones Plantarum XXX

シ所ノモノナリ、

○ろくしやうぐされ菌

Chlorosplenium aeruginosum (Oed.) De Not.

（所屬）眞正囊菌門、眞正囊菌區、茶椀茸亞區、菌核病菌科（Helotineae）、ぶだうの菌核病菌科（Sarcoscypheae）、

子實體ハ皿狀ニシテ柄ヲ具ヘ、平滑ニシテ蠟質ヲ帶ビ、綠靑色ヲ呈ス、八裂子囊ハ圓柱狀ニシテ、八個ノ八裂子ヲ二列ニ排列ス、八裂子ハ長形ニシテ、往々彎曲ス、一細胞ヨリ成リ、兩端ニ油滴ヲ含ム、長徑一〇乃至一四μ、短徑三乃至四μアリ、線狀體ハ絲狀ヲ爲ス、八裂子ハ發芽スレバ、太キ菌絲ヲ生ジ、圓錐形ヲ爲セル枝ノ先端ニ長形ノ連鎖子ヲ簇生ス、本菌ハ已レノ宿レル樹木ノ材ヲ綠靑色ニ染ム、岩手縣江刺郡藤里村長倉山ニ產ス、和川仲治郎氏ノ採集ニ係ル、

○ぶくりやう

Pachyma Hoelen Rumph.

（所屬）孤立菌類（Fungi imperfecti）、無胞子類（Sterile Formen）、

菌核ハ地中ニ發達シ、頗ル大キクシテ圓ミヲ帶ブ、褐色ニシテ表面粗糙ナリ、皮膚ハ厚クシテ、內部ハ肉質ナリ、生殖器ハ知ラレズ、仙臺林地ノ松根ニ生ズ、

○フーカー氏ノ著書ニ就テ

松田定久

昨年逝去セラレタルフーカー氏（Sir Joseph Hooker）ハ其誕生一八一七ニアリ氏ハ世界有數ノ植物學者ナルト共ニ亦稀有ノ高齡ニ達シタル植物學者ニシテ我邦ノ伊藤圭介博士ニ及バザルコト僅ニ三四歲ナリ氏ガ斯學上ノ功績ノ著シキコト著書ノ多キコト等ハ後生ノ喋々ヲ要セズト雖モ吾人ガ屢々參照シテ恩惠ニ浴スル二三ノ書ヲ揭ゲテ景仰ノ意ヲ表ス（以下記スル所ハ主トシテ本年一月發行ノ雜誌（Gardener's Chronicle）ニ揭ゲタル小傳ニ據ル其執筆者ハヘムスレー氏ナリ）

一、Botanical Magazine

此雜誌ノ第五十四卷ヨリ第百十卷ニ至ル間ハ氏ノ關係セラレタルモノニシテ始メハ其父（William Hooker）ト共ニセシガ九十一卷以下ハ氏一人ノ擔當ニテ其圖版ハ第五千四百八十六ヨリ七千九百九十一ニ亘レリ

一、Hooker's Icones Plantarum

此書ハ現今卷數三十、圖版三千ニ達シタリ氏ノ名ヲ冠スト雖モ氏自ラ執筆シタル分ハ少數ニシテ他ノ學者ノ筆ニ成ルモノ多シ

一、Bentham and Hooker f.—Genera Plantarum.

是レ近世ニ於ケル分類學上ノ名著ナルコトハ世ノ認ムル

Cunninghamieae					
Abietoideae					

○菌類雜記（六）

安田篤

○やけいろたけ（新稱）

Polyporus adustus（Willd.）Fries.

（所屬）基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、さるのこしかけ科、さるのこしかけ亞科、

菌傘ハ無柄ニシテ覆瓦狀ニ重ナリ、薄クシテ强靭ナル肉質ヲ帶ブ、半圓形ニシテ、長徑五乃至一〇「センチメートル」、短徑二・五乃至五「センチメートル」アリ、表面ハ灰色ヲ呈シ、緣邊硬クシテ黑褐色ヲ帶ブ、菌管ハ短クシテ孔ハ小サシ、孔緣ハ初メ白ク、後ニ灰褐色ヲ呈ス、仙臺林地ノ樹皮面ニ生ズ、

○ちゃみだれあみたけ（新稱）

Daedalea confragosa（Bolt.）Pers.

（所屬）同上、

菌傘ハ無柄ニシテ栓革質ヲ帶ブ、稍凸カニシテ半圓狀ヲ爲シ、長徑一〇「センチメートル」、短徑六「センチメートル」內外アリ、表面ハ栗褐色ニシテ輪層ヲ具ヘ、粗糙ナリ內部ノ實質ハ褐色ヲ呈ス、裏面ハ灰褐色、後ニ栗褐色トナル、子囊層托ハ狹キ迷路狀ヲ爲シ、其緣邊往々突出シテ齒狀ヲ呈ス、仙臺林地ノ樹幹ニ生ズ、

○ちゃうらしろかはらたけ（新稱）

Polystictus hirsutus（Schrad.）Fries, **f. pores adustas.**（所屬）同上、

菌傘ハ無柄ニシテ覆瓦狀ヲ爲シ、半圓形ヲ呈ス、薄クシテ革質ヲ帶ビ、長徑六乃至一〇「センチメートル」、短徑三・五乃至五「センチメートル」アリ、表面ハ白クシテ輪層ヲ具ヘ、密毛ヲ以テ被ハル、裏面ハ褐色ナリ、菌管ノ孔ハ小サクシテ、圓形或ハ多角形ヲ呈ス、仙臺林地ノ樹皮面ニ生ズ、

○たばこたけ（新稱）

Hymenochaete tabacina（Sow.）Lév.

（所屬）基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、いぼたけ科（Thelephoraceae）、

子實體ハ薄クシテ革質ヲ帶ブ、樹皮面ニ擴ガリ、緣邊反捲ス、若キ時ハ絹樣ノ毛ヲ被ムリ、後ニ平滑トナリ褐色ヲ呈ス、外觀たばこノ枯葉ニ似タリ、緣邊及ビ內部ノ實質ハ黃色ヲ帶ビ、子囊層ハ剛毛體（Cystiden）ヲ以テ藏ハル、岩手縣江刺郡橫瀨村ニ於ケルあかまつノ枝上ニ生ズ、和川仲治郎氏ノ採集ニ係ル、本菌ハ歐洲ニテハ、主トシテはしばみニ生ズルヨリ、嘗テはしばみたけノ名ヲ命ゼ

us(三種) カラマツ屬(Larix 十二種)
2. 松族(Pineae) マツ屬(Pinus 九十種)

B. 地理的分布

Taxocupressineae　寒溫熱三帶ニ分布ス

1. Taxodeae　大部分ハ熱帶ニ他ハ北半球溫帶ニ分布ス
1. Cephalotaxeae　北半球ノ熱帶外
2. Taxeae　北半球ノ熱帶外
3. Podocarpeae　熱帶及ビ兩溫帶地方
a. Podocarpinae　南半球ノ溫帶
b. Phyllocladinae　同
c. Pherosphaerinae　同
d. Saxegothaeinae　同
2. Taxodioideae　大部ハ北半球熱帶外ニ分布ス
1. Arthrotaxeae　南半球ノ溫帶
2. Sequoieae　北半球ノ溫帶
3. Cryptomerieae　同
4. Taxodieae　同
3. Cupressoideae　大部分北半球熱帶外ニ分布ス
1. Cupresseae　北半球ノ溫帶
2. Thujopseae　兩半球ノ溫帶
3. Actinostrobeae　南半球ノ溫帶
4. Junipereae　北半球ノ溫帶

Abietaceae　主トシテ溫帶熱帶ニ分布ス

1. Araucarioideae　大部分熱帶ニ分布ス、北半球他二帶ニハナシ
1. Agatheae　主ニ熱帶ニ分布ス他ハ南半球ノ溫帶
2. Araucarieae　同
2. Cunninghamioideae　主ニ北半球溫帶産ナリ
1. Cunninghamieae　北溫帶
2. Sciadopityeae　同
3. Abietoideae　主ニ北半球ニシテ南半球ハ熱帶外ニナシ

C. 系統關係、—次ノ如クニシテ單系ナリ

Ginkgoinae — Cordaitinae
Taxoideae — Araucarioideae
Taxodioideae — Cunninghamioideae
Inolepis — Abietoideae
Cupressoideae

D. 時代的分布

亞科 \ 時代	二疊紀	三疊紀	侏羅紀	白堊紀	新世代
Taxoideae					
Taxodioideae					
Cupressoideae					
Araucarioideae					

スル所アリ次ノ如シ

(A) 分類

(甲)榧柏科(Taxocupressaceae)二一二種ヲ含ム

(一)、一位亞科(*Taxoideae*)一〇六種

一、粗榧族(Cephalotaxeae)イヌカヤ屬(Cephalotaxus 六種)

二、一位族(Taxeae) イチヰ屬(Taxus 六種)、カヤ屬(Torreya 四種)

三、竹柏族(Podocarpeae) 略九十種

1. 竹柏亞族(*Podocarpinae*) ナギ屬(Podocarpus, 六十四種) Dacrydium(十六種)
2. *Phyllocladinae*. Phyllocladus(六種)
3. *Pherosphaerinae* Pherosphaera(二種)
4. *Saxegothaeinae* Saxegothaea(一種) Microcachrys(一種)

(二)水松亞科(*Taxodioideae*) 九種

一、Arthrotaxeae. Arthrotaxus(三種)

二、Sequoieae. Wellingtonia(一種)、Sequoia(一種)

三、杉族(Cryptomerieae) スギ屬(Cryptomeria 一種)

四、水松族(Taxodieae)、Taxodium(二種) Glyptostrobus(一種)

(三)扁柏亞科(*Cupressoideae*) 九十八種

一、扁柏族(Cupresseae)、Cupressus(十二種)ヒノキ屬(Chamaecyparis 六種)

二、羅漢柏族(Thujopseae)、アスナロ屬(Thujopsis 一種) Libocedrus(九種)クロベ屬(Thuja 四種)コノデガシハ屬(Biota 一種)

三、Actinostrobeae. Fitzroya(二種) Actinostrobus (二種) Callitris(三十種)

四、杜松族(Junipereae)、Arcuthos(一種)ビヤクシン屬(Juniperus 十種) Sabina(二十種)

(乙)樅松科(Abietaceae) 二百十種

一、*Araucarioideae* 略二十二種

1. Agathene. Agathis(八種)
2. Araucarieae. Araucaria(十四種)

二、廣葉杉亞科(*Cunninghamioideae*) 三種

I. 廣葉杉族 (Cunninghamieae) カウヤウザン屬(Cunninghamia 二種)

2. 金松族(Sciadopityeae) カウヤマキ屬(Sciadopitys 一種)

三、樅亞科(*Abietoideae*) 略百八十六種

1. Sapineae

a. 樅亞族(*Abietinae*) Keteleeria(四種) モミ屬(Abies 二十五種) Pseudotsuga(一種)ツガ屬(Tsuga 九種)トウヒ屬(Picea 三十種)

b. 落葉松亞族(*Laricinae*) Pseudolarix(一種) Cedr-

シ得ルヲ知レリ。

幼時ト老成時ト葉ガ同一ナル時ハ之ヲゲーベルノ如ク Homoblastisch ト稱シモシ發生階段ニ從ヒ葉形異ル時ハ之ヲ Heteroblastisch ト云フ。此二大性質ノ差異及ビ空中葉、水中葉浮水葉等ノ區別ニヨリ類緣ヲ區別セルハ生態學上極メテ重要ナリト云フベシ。

氏ハ先ヅ挺水植物ノ六種ノ生態形ヲ說述シタリ。曰ク陸形、淺水形、浮水形、沈水形、流水形及倏儻形等是ナリ。而シテ各形ノ尤モ發生ニ都合ヨキ水深ヲ實驗及ビ觀察ニヨリテ定メタルハ大ニ吾人ヲ利スルモノアリ。其結果ニヨレバ挺水植物ハ空氣及ビ光線ヲ要スルノ度強キヲ以テ百仙米以下ニ繁殖スルノ種類ハ割合ニ少キガ如シ。著者ハ各生態形ノ甲ヨリ乙ニ變化スルニハ外因ト內因ニヨルモノナリトシ外因ニハ水深、空氣、光線、溫度ノ差等ヲ數ヘ內因トシテハ植物ノ年齡ト共ニ變化スル貯藏物ノ量ニアリトセリ。而シテゲーベルノ水中葉ノ成生ハ不幸ナル狀態ニヨリ陸形葉ノ現出ハ良好狀態ニ起因スベキヲトケルハ著者ノ考察ト矛循セズト云フ。何トナレバ此良、不良ノ狀態ハ右內因及ビ外因ノ組合ニ外ナラザレバナリ。次ニ各生態形ノ生活年限ニ就テ注意スベキ事多シ。殊ニ沈水形ノモノハ生命ヲ延長セシメ得ベクモシ之ヲ陸形ニ變セバ數週ノ生命ニスギザルモノモアリト。

沈水形ニハ不實又ハ閉花ヲ作成スルニ至ルモノアリ。ゲーベルノ說ニヨレバ陸生植物ノ閉花ハ土壤ノ瘠少寄生物ノタメニ起ル變態ニ外ナラズト云フガ挺水植物ノ場合ニハ水ニヨル防害作用ニヨル變態ナリトセリ。終ニ有性無性生殖ノ相互作用ニ及ビ花枝ヲ或時期ニ沈水スル時無性枝ニ變ズルモノアリト云フ。例ヘバすぎなもノ如シ又此際でんじさうノ果實ハ四牧ノ葉狀物ニ變化スルコトアリト云フ。本書尙尙ホ吾人ニ敎フル所極メテ多シ。今之ヲ悉ク短少ノ筆ニ紹介シ難キヲ恨ム。詳細ハ同書殊ニ總論部ニ讓ラン。本著書ノ第四卷ハ「沈水及ビ浮水植物」ノ研究ヲ說述スルト云フ。吾人ハ早ク其出版ヲ望ミ又追テ本誌ニ紹介スルノ期アラン

要スルニ本書ハ該方面ニ於ケル一新方面ヲ開クルモノト云フベク著者ノ如キ人ト著者ノ如キ大規模ヲ以テナスニアラザレバ實行シ難キ事業ナリ。今願ミテ邦產ノ水生植物ノ研究ヲ見ルモ極メテ遺棄セラレタルモノ多ク之ヲ研究スルニハ本著書ノ如キハ大ナル指針タルベキヤ明カナリ。

○松柏類新分類法式

小泉源一

近年ヒーアハツペル氏(F. Vierhapper)ノ考定セル松柏類(Coniferae)新分類方式(Abh. d. k. k. Zoolog—Bot. Ges. in Wien, V, Heft 4.)ハ從來ノ方式ニ比スレバ頗ル逕庭

座候」

以テ余ノ考說ノ眞ナリシヲ推シ得ベシ

○淡水植物ノ生態及形態學的研究

中野治房

淡水植物ノ如キ適應形ノ多樣ナルモノニアリテハ其生態及ビ形態的研究ハ極メテ興味アルノミナラズ分類系統史ヲ確定スルニモ缺ク可ラザルヤ明ナリ。然モ水中ノ研究ハ陸上ノ如ク簡易ニ施行スルヲ得ザルヲ以テ水中植物ノ研鑽ハ陸上植物ノ其ニ比シ著シク後レタルノ感アリ。且ツ近時水中植物ノ研究ハ浮游生物ノ一方面ニ趨リ斯學學者ノ各國等シク輩出セルニ反シ淡水高等植物ノ研究ハ益棄拋サレントスルニ至レリ。之ヲ以テ獨逸ハイデルベルヒ大學敎授グリュック博士ハ兼テヨリ淡水顯花植物ノ生態研究ニ專心盡力シツヽアリシガ先年ヨリ標題ノ如キ名ノ下ニエナノグスタープ、フキツシャーヨリ大著述ヲ刊行シ今ヤ其三卷ヲ終ヘ第四卷ノ出版ヲ以テ該著ヲ完結セントスルニ至レリ。

其第一卷ハ千九百五年ノ出版ニシテ「歐洲澤潟科ノ生活史」ト題シ七種及ビ一變種ノ陸上及ビ水中培養ヲ施シ其葉、花梗、及ビ塊莖等ノ成立差異ヲ記述セリ。第二卷ハ千九百六年ノ出版ニシテ「中歐產狸藻類ノ研究」ト題シたぬきも、及ビきんぎよもノ生態形、無性芽及ビ假根等ノ形成ヲ論述セリ。以上ノ研究中分類上面白キハ實驗ノ結果生ゼル水中形ハ forma aquaticum Gl 陸形ハ forma terrestre Gl. ト命名セルコトナリ。氏ノ澤潟科研究ハ又分類學上ノ種ヲモ變更スル所アリキ。其分類上ニ關スル部分ハ千九百六年 Allgemeine botanische Zeitschrift ニ載セラレタリ。

第三卷ハ千九百十一年ノ出版ニシテ題シテ「挺水植物」トヲ云フ。六百廿餘頁ノ大著ニシテ氏ノ苦心ノ跡ヲ窺フニ足ルモノ多シ。書中ノ各植物ヲ生態學的ニ觀察センガタメ南及ビ南西獨逸、スキツツル、荷蘭、伯義、佛國、伊太利、サルデニヤ、アルギール、英國等ヲ猥ナク旅行セリト。又ハイデルベルヒノ大學內ニハ殊ニバーテン國內閣ヨリノ補助ニヨリ培養池ヲ作リ又培養器ノ數ハ著シク增加シ之ヲ監理スルサヘ既ニ大困難ナリキト。深キ水中培養ハ以前ノ如ク萊因河ノ一部ニテ施行セリ。

又著書ノ出版ニ就テハフロシアノ科學學士會及ビバーデン國內閣ノ補助ヲ受ケタルナリ。主要ナル結果ノ摘要ハ五百八十一頁以下ニ載セタレバ之ヲ讀了スル時ハ書中ノ概要ヲ知ルベシ。

予ハ曾テ邦產水生植物ノ生態的分類ヲ編成シタル際沈水及ビ浮水植物ハ殆ンド其區別ヲ了シタルモ挺水植物ノ區別ハ殆ンドナシ得ザルノ苦境ニアリシガ今ヤグリュック氏ノ本著書ヲ邦產ノ種ニ適用セバ明ニ其生態的分類ヲナ

ニ短カシ、學名ヲ *Mimulus tenellus*, Bunge ト云ヒ北清、滿州ニ分布ス。

(19) 朝鮮ニハ「いらくさ」「ながばいらくさ」「むかごいらくさ」ノ外ニ高サ四尺乃至六尺雄大ナル一種ノ「いらくさ」アリ刺毛ノ著シキ「いらくさ」ヲ十倍シタラン如シ學名ヲ *Girardinia cuspidata*, Wedd ト云フ。

(20) いとはこぐ *Stellaria filicaulis*, Makino ハ我邦稀ニ産スル植物ナルガ余之レヲ朝鮮德源附近ノ田畔ニ得タリ面白キ分布ナリ。

(21) 朝鮮ニハ所々ニ桑ノ葉ノ如キ葉ヲツケ赤褐色ノ實ヲ結ブ田麻科ノ灌木アリテ南韓ノ民ハ其葉ヲ桑ニ代用シテ蠶ヲ飼育ス、之レヲ *Grewia parviflora*, Bunge ト云フ。

(22) 北韓ニハ「つりふねさう」ヲ小ニシタラン樣ノモノアリ、其狀瘠地ニ生ジタルモノカト思ハルレドモ然ラズ、其種本來ノ性ナリ。學名ヲ *Impatiens furcillata*, Hemsley ト云フ。

(23) 北韓ニハ「ひめいはあかばな」*Epilobium cephalostigma* Hausskn. forma *minor* (Maxim.) Nakai ニ類シテ全ク毛ナキ種アリ之レ黑龍江地方ニ分布スル *Epilobium anmense*, Maxim. ナリ。

(24) 「おほばやへむぐら」ノ學名ハ *Galium dauricum*, Turcz. ヲ採ルベシ唯其標準種ト異ナルハ果實ニ刺アル點ノミ其關係ハ恰モ「やへむぐら」ノ刺ナキ變種ト刺アル標準種トヲ逆ニシタランガ如シ故テ *Galium pseudoasperellum*, Makino ヲ呼バズモガナ。

(25) 「じやにんじん」ノ朝鮮ニ生ズルハ其標準品ニテ實ニ毛ナシ、內地ニハ北海道本州ノ北部幷ニ對馬ニ產ス眞ノ「じやにんじん」ハ其變種ニテ實ニ疎毛生ズ學名ヲ *Cardamine impatiens* v. *dasycarpa* ト云フ。

(26) 北韓ニ「にりんさう」ニ似テ非ナル植物二種アリ、朝鮮ニハ未ダ「にりんさう」ノ產スルヲ見ズ其似テ非ナルハ *Anemone Rossi*, Baker et Moore *Anemone baicalensis* Turcz. 之レナリ。

(27) 李朝ノ李ハ何物ナルカ疑問ニ屬セシガ、余ハ朝鮮植物調查ノ結果其ハ內地ノ「にはむめ」ニ類スル *Prunus glandulosa* Thunb. ナラザルベカラザルヲ推セリ、サレバ平壤ノ今井半次郎氏ガ同標品ヲ送リ越セシ時モ其樣答ヘ置キシニ頃日左ノ返信ニ接セリ。

「却說御示敎被下候中 *Prunus glandulosa* は李朝の李の樣御示し有之候當地に居る小生等も今迄其李は所謂內地の李と思ひ朝鮮人の多くも左樣心得居候へ共御注意により少しく相調べ候處實に仰せの如くにて內地のスモヽは朝鮮にては紫桃(ズヨ)と申し *P. glandulosa* を李(오얏)と申し殊に之れを生垣と致して其開花多くして盛に繁る時は國家又盛んとなるの諺も有之候由に御

ヲ前者ノ變種ト考フルハ Glehn, Maximowicz ノ二氏幷ニ余ナリ同種ト考フルハ Turczaninow, Hemsley 松田ノ諸氏ニシテ Maximowicz 氏モ壯年時代ニハ同種說ヲ持セシガ晩年 Flora Tangutica, Flora Mongolica ヲ記スニ當リテハ明カニ區別セリ。

(11) 薩摩薯ハ關西地方ニテハ琉球薯ト云ヒ薩摩ニテハ唐薯ト云ヒ支那ニテハ甘藷一名蕃藷ト云フ以テ輸入ノ經路ヲ辿ルニ足ル。蝦夷菊ハ滿韓北清ノ產ニシテ蝦夷（北海道）ニ自生スルニ非ズ然ルニ東北地方ニテハ朝鮮菊ト呼ブモノアリ或ハ「さつまいも」ト同一律ノモノニ非ザルナキカ。

(12) 地黃ハ漢藥トシテ用キラレ朝鮮ニハ藥用トシテ栽培ス原產地明カナラザリシ爲メ或ハ支那ナリト云フ、北韓ニハ所謂「あかやじわう」自生ス。矢部氏ノ談ニ南滿州ニモ多ク自生スト。延胡索ト同ジク同地方ガ原產地ナルベシ。

(13) 京城南山ニ產スル故「南山すみれ」ト云ヒ、故伊藤統監ガ手ヅカラ採リシ故ヲ以テ「統監すみれ」トモ云フハ *Viola pinnate* v. *chærophylloides*, *V. dactyloides* ヲ併セ云フモノニテ「えぞすみれ」ト云フニ同ジ

(14) 朝鮮ニハ「えひめあやめ」*Iris Rossi*, Baker 多ク自生ス、之レニ近似ノモノ更ニ二種アリ。曰ク *I. ruthenica*, Dryand. v. *nana*, Maxim. 曰ク *I. uniflora*, Pall. 是ナリ其區別點次ノ如シ。

花蓋ノ筒狀部ハ花時苞ニテ包マル。

苞ハ花ノ本ニアルノミ、苞ハ花後速カニ凋ル ……*I. ruthenica* Dryand. var *nana* Maxim.

苞ハ莖上ニ數枚アリ花後殘リ剛直ナリ ……*I. uniflora*, Pall.

花蓋ノ筒狀部ハ花時苞ノ外ニ出ヅ、苞ハ莖上ニ數枚アリ、花後殘リ其質ウスシ……*I. Rossi*, Baker.

(15) Wright 氏ニ依レバ夏水仙 *Lycoris squamigera* ハ支那ニハ栽培品ノミニテ自生ナシト、朝鮮ニハ明カニ其自生アリ。內山富次郎氏嘗テ之レヲ江原道金剛山ニ得タリ。

(16) 芍藥ハ朝鮮ノ山ニ至ル所ニアリ、白色ノモノ最モ普通ナレドモ淡紅色ノモノモ稀ナラズ。野山ニ點々タルヲ望メバ「なにわいばら」ノ花カトモ見ユ、韓人ノ野菜ヲ濁グモノ開花時期ニハ之レヲ日本町ニ携ヘ來ル、通例淡紅色ノモノ、ミヲ賣ル、山芍藥ハ芍藥ニ比スレバ少ク深山ニアリテ淡紅白色共ニアリ。

(17) 韓人ノ兒童春先ニナレバ山ニ一種ノ蓼ノ若芽ヲ採收ニ出掛ケ之レヲ生食ス之レ *Polygonum divaricatum* ノ芽ナリ。

(18) 朝鮮ノ「みぞほうづき」ハ內地產ノモノトハ全然別種ナリ形ヨク似タレドモ花梗ハ非常ニ短カク葉柄ヨリモ常

ト云ヘドモ疑ハシ。北韓ニハ其自生アリ土人ハ然レドモ之レヲ食ハズ。風土ニ適セリト見エ大ニ肥大シ蔓山嶺ニテ余ガ見タルモノハ高サ六尺餘ニ達セリ。

(2) のにがな *Lactuca Matsumurae*, MAKINO ノ變種きくばのにがな *v. dissecta* MAKINO ニ類スルモノガ支那ニ産スルハ松田定久氏ガ昨年十月ノ雜誌ニ報ゼシ所ナリ然ルニ平壤ノ今井半次郎氏ガ昨年五月平壤附近ニテ採收セルハ矢張きくばのにがなトノ中間ニ位スルモノナリ。朝鮮ニテハ初發見ナリ。

(3) くさのわうばのげし *Lactuca chelidonifolia*, MAKINO ガ朝鮮鳥嶺ニ産スルハ拙著朝鮮植物誌第二卷ニテ發表セシガ如シ。石戸谷勉氏再ビ之レヲ平安北道昌城郡靑山面梨石洞ニ得タリ。分布上面白キ產地ナルベシ。

(4) 朝鮮至ル所ニあきにれニ似テ刺多キ植物アリ一見楡屬トモ見ユ學名ヲ *Zelkova Davidii*, BENTH et HOOK fil. ト云ヒ欅屬ナリ。

(5) 朝鮮ニテ *Quercus mongolica* ト混ズル大葉ノ「かし」アリ其ハ「ならがしは」ニシテ葉裏ハ細カキ密毛ニテ被ハレ稍白色ヲ呈シ鋸齒ハ尖レリ。*Quercus mongolica* ハ「かしは」ノ葉ヲ小クシタラン如キ鋸齒ノ丸キ葉ヲ有シ毛全クナシ。元山ニテ「チョンガ」(朝鮮ノ小供)ガ「かしは餠ヤー」ト呼ビテ賣リ來ルハ「かしは」ノ葉ニテ包ムモノナレドモ城津以北ニ至レバ旣ニ「かしは」ナシ故ニ *Quercus mongolica* ノ葉ヲ代用ス。

(6) たかのほしくさ *Eriocaulon cauliferum*, MAKINO ハ一昨年牧野氏ガ初メテ本雜誌ニテ紹介セル奇品ナリ水原ノ農林學校教諭植木秀幹氏之レヲ同地附近ニテ得タリ。分布上注目ニ値ス。

(7) 朝鮮ニハ二種ノ「ささもぎ」アリ一ハ內地ノ「ささもぎ」ニ同ジケレドモ一ハ花形其二倍以上ニ達シ白色筒狀部紫色ニテ美シ。之レ *Coatalpa bignonioides* ナリ內地ノモノハ嘗テ其變種ト考ヘラレシコトアリ。

(8) 朝鮮ニ自生スル「なつめ」ハ實丸ク托葉鉤狀ナリ、之レ「さねぶとなつめ」*Zizyphus vulgris v. spinosus* ニ外ナラズ。土人ハ生食シ又ハ乾シ蒸シテ餠ニ加ヘテ搗ク。

(9) 朝鮮ニ「ひいらぎ」ナシ之レニ代用スベキモノハ冬靑科植物ノ *Ilex cornuta* ナリ。葉ノ刺ハ決シテ「ひいらぎ」ニ讓ラズ黑キ實ヲ結ブ。

(10) 本誌二八七號ニ *Lepidium ruderale* ト *L. micranthum* トハ同種ナリトノ松田定久氏ノ說アリ。朝鮮ニモ後者アレバ敢テ一言ス、兩種ハ區別シ易キモノト思フ。其區別點ハ子葉ノ incumbent, accumbent ニ非ズ又花瓣ノ有無ニモ非ズシテ毛ノ有無ニアリ。*L. ruderale* ハ毛ナキモノナレドモ *L. micranthum* ハ莖ノ上方及ビ花莖ニハ小粒狀ノ毛密生ス兩者ヲ種トシテ區別セシハ FISCHER, MEYER, LEDEBOUR, FREYN, KOMAROV ノ諸氏ニシテ後者

ベキ菊科植物ガ斯カル愚策ヲ敢テ爲ルハ果シテ何ノ理ゾ。クニープ氏ハ續テ曰ク、乳管ノ使命ノ正解セラレザル今日ノ如キニ於テハ一派學者ノ所謂通導器官タルノ論據充分ニ確立セザル以上、他ノ分泌器官ト乳管トハ同一ノ意味ヲ有スル者ト見ルコソ穩當ナレ、バン、チーゲン氏モ言ハズヤ此兩者ハ生理上同價値ノ者也ト、然レドモ彼ガ兩者ヲ以テ單ニ排泄物ノ滯溜所タルニ過ギズト認ムルニ於テハ大ニ議論無クンバアラズ、種々ノ分泌器官及ビ乳管ハ其發生上形態上全ク別種ノ器官タリ、而モ其互ノ間ニ發育上交互關係アルヲ見レバ此間ニ何等カノ神秘ノ有リテ存セン、クニープ氏想フニ斯カル別種ノ器官ノ間ニ密接ナル關係アルハ自然淘汰ニ於テ或ル一定ノ目的ニ適ヒシモノナラン、兩者ノ內容物ハ相類似ス以テ共ニ植物體ニ或ル緊要ナル役目ヲ果セルナルベシ、而ラズンバ何スレゾ生存競爭場裡ノ優者タルヲ得ベケンヤト。

翻ツテ其內容物ヲ見ルニ、物質新陳代謝ニ於テ再ビ植物體構成ニ利用セラレ得ザル物ナル事ハ學者ノ意見ノ一致スル所ナリ、サレバ之ニ生理的ノ意味ヲ附與スルヲ得ズ勢ヒ生態的方面ニ解釋ノ鍵ヲ求メザルベカラズ、スタール(STAHL)氏ニヨレバ樹油及ビ樹脂ハ蝸牛ニ對シテ大ナル防禦手段ナリト、クニープ氏モ多クノ菊科植物ニ於テ其然ルヲ實驗セリ、且ツ二三學者ノ言ヘル如ク樹脂及ビ乳汁ノ傷口閉塞ノ用ヲ爲ス事實ヲモ見逃スベカラズ、吾人ハ此二方面ニ於テ分泌器官ノ意味ヲ求メントス、而シテ彼ト乳管トノ間ニ緊密ナル交互關係アルヨリ見レバ此解釋ヲ以テ乳管ニ適用シ得ベシ、ソハ單ニ机上ノ說ニ過ギザルニアラズ諸學者ガ多クノ植物ニ於テ實驗的ニ證セシ所、クニープ氏自身モ亦蝸牛ト乳管トノ關係ヲ委細ニ研究シ乳汁ガ動物ニ對スル有力ナル防禦手段ナル事ヲ確カメタリ、玆ニ於テ彼ハ決論スラク、乳汁ノ使命ハ第一ニ生態的方面ニ有リト、卽チ乳管ト他ノ分泌器官トハ同樣ノ意味ヲ有スルモノ也ト爲スニアリ、菊科植物分泌器官相互ノ間ニ前記ノ關係アル又故ナキニ有ラザル也。

本文ハ主トシテ次ノ三書ニヨレリ。

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2) KNIEP, Ueber die Bedeutung des Milchsaftes der Pflanzen. (Flora Bd.94 1905)
3) LEBLOIS, Recherches sur l'origine et le développement des canaux sécréteurs et des Poches sécrétrices. (Ann. d. Sc. nat. 7e sér. tom.6 1887)

○朝鮮植物雜錄

中井猛之進.

(1)午蒋 *Arctium Lappa*, L. ハ內地ニハ支那ヨリ輸入セリ

セリ、クニープ氏ノ如キハ其間ノ消息ニ大ナル注意ヲ拂ヒ之レニ進化論ヲ加味シテ宣言スラク、多分樹脂道ハ其始メ菊科植物全體ニ亙リテ分布セラレ居リシモノナラン、乳管ノ發現ヲ見ルニ及ンデ漸々其位置ヲ占有セラレ舌狀花亞科ニ於テハ始ンド其跡ヲ絕チ只其二三植物ニ於テノミ痕跡ヲ留ムルニ過ギザルニ至レルナルベシト。

借問ス、菊科植物ノ分泌器官相互ノ間及ビ其ト乳管トノ間ニ斯クノ如キ交互的發育關係ノ存スルハ何ノ意ゾ、玆ニ於テヤ吾人ハ先ヅ分泌器官ノ意義使命ヲ究メザルベカラズ、ハーベルランド（HABERLANDT）氏ハ曰ク植物體內ノ排泄物ハ物質代謝ノ强盛ナル場所ニ於テ生ジ先ヅ通導組織（Leitungsgewebe）中ニ攝取セラレ次デ分泌器官中ニ排出セラル、而シテ乳管アル場合ニ於テハ排泄物ハ通導組織內ニ入ラズシテ直チニ乳管內ニ入リ其處ニ滯溜スト。古來乳管ノ作用ニ就イテハ定說ナク人ニヨリ時ニヨリ種々雜多ノ解釋ヲ恣ニセリ、然レドモ其間ニ自ラ相幷行シテ走レル二大主潮流ヲ認メ得ベシ、一ハ乳管ヲ以テ通導器官ナリトシ他ハ以テ單ニ排泄物ノ滯溜所タルニ過ギズト爲スニアリ、兩說其ニ各其論據ヲ擁シテ動カズ玆ニハ其詳細ニ亙ラザレドモ、ハーベルランド氏ノ如キハ其前說ヲ主張スル第一人也、然シ排泄物ノ滯積所タルヲ全々否定スルニアラザルハ前記ニモ見ヘシ如シ、彼ニヨレバ乳管ハ主ニ營養物ヲ運搬スルト同時ニ排泄物ノ滯溜所トナル故ニ乳管アル所一般ニ分泌道無シト、要スルニ彼ハ植物通導器官ヲ以テ動物ノ血管ニ比シ其通導器官ト分泌器官トノ間ニ緊密ナル關係ヲ認ムルモノ也。クニープ氏ハ然ラズ、曰ク動物體內ノ排泄物（例ヘバ尿）ヲ以テ乳管又ハ樹脂道中ノ分泌物質ニ比スベクモアラズ、彼ハ含窒素物質ニテ蛋白質ノ分解ニヨル物、此ニ於テハ無窒素物質ナラズヤ、ソハ姑ク預リ分泌器管ノ解剖上ノ位置ニ就テ一見セシメヨ、彼ト通導組織トノ間ニハハーベルランド氏ノ云ヘル如キ親密ナル關係ヲ認メ得ズ、吾人ハ往往分泌器官ヲ通導組織ト無交涉ナル初生皮層中ニモ見タリ髓中ニモ見タリ甚ダシキハ表皮系中ニ見ル事少ナカラズ、其內容物ハ無窒素物質ナリ其源ヲ無窒素物質ニ仰ゲルヤ知ルベキノミ、ストラスブルゲル（STRASBURGER）氏ノ研究ニヨレバ松柏科植物ノ樹脂ハ髓中ニ於テ澱粉ヨリ化成セラルト、然ラバ菊科植物ノ樹脂道中ノ內容物ハハーベルランド氏ノ言ヘル如ク一度通導組織中ニ入リ再ビ排出セラレタル不用物質ニハアラズシテ其分泌器官中ニ於テ或ル一定ノ方法ノ元ニ組成セラレタルモノニハアラザルカ。是クニープ氏ノ說ノ眼目タルベキ點ニシテ彼ハ想ヘラク樹脂道及ビ乳管ハ外界ト何等カノ交涉ノアリテ存セント、若其內容物ニシテ一派學者ノ唱フル如ク植物自體ニ無用ナル物質ナリトセバ植物體ハ何ノ爲メニ斯カル廢物ヲ體內ニ貯藏シ居ルカ、生存競爭ノ最優者タル

根ノ中ニハ之ニ代フルニ含乳汁細胞ヲ以テス。おけら屬ノ一種アトラクチイリス、グミヘラ(*Atractylis gummifera*)ノ其ノ構造ハ前者ト一致ス、又カルリナ、アカンチホリア(*Carlina acanthifolia*)ニテハ乳管系ハ比較的短カキ細胞ノ連鎖ヨリ成リ所々ニ尚ホ横隔壁ノ殘存スル事前者ノ如シ。メイエン(Meyen)トレキュール(Trécul)バン、チーゲン及ビクニープ(Kniep)諸氏ハあざみ屬ひれあざみ屬等ニモ純然タル乳管アル事ヲ聲言シタリ、余ハ姑クソレレダー(Solereder)氏ニ從ヒ是レヲ以テ含乳汁分泌細胞ト見做シ後ニ說ク所アルベシ。而シテ玆ニ面白キハ前記ガザニア屬ニテハ樹脂道ハ只根ノ中ニノミ存ス根ノ靭皮部中ニハ其外ニ含乳汁細胞ヲモ有スル事ハ前記ノ如シ、おけら屬ニアリテハ分泌腔ヲ見カルリナ屬ニハ分泌腔モ樹脂道ヲモ有ス。以上乳管ト樹脂道トノ發育程度ノ間ニ何等ノ境界線ヲ引クヲ得ザルヲ指示スルト同時ニ他ノ分泌器管モ其交互關係渦中ニ投ズルアルヲ示サズヤ、以下分泌細胞ノ出現ニ付テ今少シク記述セシメヨ、此器管ヲ有スル者ハ多クハ又樹脂道ヲ併有ス、此場合一般ニ樹脂道ハ植物體ノ下部ニ於テ發育シ其上部ニ於テハ分泌細胞ヲ見ル、乃チ兩者ノ間ニ交互關係ヲ認メズンバアラズ、例ヘバカルリナ、ブルガリス(*Carlina vulgaris*)ニアリテハ根ノ中ニ樹脂道ヲ有シ尚ホ莖ノ下部ニ於テ其存在ヲ見ル、而ルニ莖ノ上部ニ至ルニ從ヒ分泌腔現ハレ遂ニハ分泌細胞ノミヲ見ル、又ゐぞきつねあざみ(*Cirsium arvense*)ノ根ノ中ニハ內皮ヨリ生ズル樹脂道及ビ髓中ニ生ズル其ヲ見ル、此者ハ莖ノ下部ニモ侵入シ其上部ニ至レバ樹脂道ノ一部ト分泌細胞トヲ共有ス、葉ノ中ニハ分泌細胞ノミ。

筒狀花區ノ若干種ニ於テ其葉中ニ分泌腔アルハ前ニ言ヘリ、此者ハ他種ノ分泌器官ト共存スルヤ或ハ其ノミ存スルヤハ未ダ研究セラレ居ラズ、而レドモ吾人ハ既ニ莖中ニ於テ分泌腔ガ他ノ分泌器官ト交互關係ヲ結ビ居ルヲ見タリ、葉中ニ於テモ同樣ノ關係アルヤ知ルベキノミ。

最後ニ樹脂細胞ニ付テ一言セン、ひごだい屬ノ一種エキノプス、エクザルターツス(*Echinops exaltatus*)及ビこうわうさう(*Tagetes patula*)ノ靭皮部中ニハ樹脂道ニ代フルニ其射出髓中ニ存スル樹脂細胞ヲ以テス。

菊科植物ノ樹脂道及ビ乳管ニ就イテ最モ早ク研究シタルハトレキユール氏也、彼ハ若干ノ屬ニ於テ此兩器官ガ共存スルヲ指摘シ且思ヘラク此兩者ハ構造上ニ於テ差異アルモ其間ニ連絡アリテ一系ヲ爲スナラント、次テバン、チーゲン氏ハ詳細ナル研究ヲナシ兩者ノ關係ニ就イテノトレキュール氏ノ意見ヲ否認シ兩者ハ一系ノ二部分ニアラズシテ各獨立シタル者ナル事ヲ聲言シ只兩者ノ間ニハ生理的平衡(Balancement physiologique)ノ存在ヲ認メ得ルニ過ギズト、以來諸學者ノ研究相次テ出デ其然ルヲ證

ラズ。

(四)分泌細胞（Secretory cells）ハ孤立的ニ存在シ多少延長形ヲ爲ス、樹脂ヲ含ムアリ乳汁ヲ充スアリ、其位置ハ乳管ノ其ト一致ス、若シ一植物ノ之ヲ有スル部ヲ摘取センカ時ニ夥シク乳汁ヲ流出セシム、あざみ屬（*Cirsium*）ひれあざみ屬（*Cardnus*）おほひれあざみ屬（*Silybum*）をけら屬（*Atractylis*）ヲ始メ既ニ十六屬三十餘種ニ於テ其存在ヲ認メラレタリ、何レモ筒狀花亞科ニ屬ス。

(五)時ニハ特別ナル異形細胞（Idioblast）ヲ爲サズシテ普通ノ形ヲ有シナガラ樹脂又ハ乳汁樣液ヲ含有スル細胞ノ存スル事アリ、學者ハ之ヲ樹脂細胞（Resin cells）ト云ヘリ。上記五種ノ器官ノ中乳管以外ノ者ハ何レモ筒狀花亞科ニアルヲ常トス、其各ノ間ニ如何ナル交涉ノ有リテ存スルカ先ヅ最モ廣ク分布スル樹脂道及ビ乳管ノ關係ニ就イテ一瞥セン、樹脂道ノ發育ハ筒狀花亞科ニ限ラズ舌狀花亞科ニ於テモ二三之ヲ見ルハ已ニ言ヘリ、卽チきばなのばらもんじん（*Scorzonera hispanica*）及ビスコリムス、グランヂフロルス（*Scolymus grandiflorus*）ノ根ノ中ニハ歷然タル樹脂道有リ、其他二三種ニ於テモ是ヲ證セラレタリ。元來樹脂道ハ內皮細胞ノ分裂ニヨリテ生ズル事ハ前ニ言ヘルガ如シ、內皮ハ筒狀花亞科ニ於テハ重複シ舌狀花亞科ニ於テハ單一ナルヲ常トス、前記二種ノ植物ヲ見ルニ其內皮ハ重複シ其細胞ノ間隙ニ樹脂道ノ生ズルヲ見ル、次デばらもんじん（*Tragopogon porrifolius*）ノ根ヲ檢スルニ同ジク其內皮ハ重複シ且ツ樹脂道ニ匹敵スベキ腔道ヲ生ジ有ルヲ見ル而シバン、チーゲン（Van Tieghem）氏ニヨレバ其內腔ニハ樹脂ノ分泌セラル、ニ至ラズト、きく亞屬ノ一種チコリウム、インディブス（*Cichorium Intybus*）及ビやぶたびらこ屬ノ一種ラムプサナ、コンムニス（*Lampsana communis*）等二三植物ニテハ矢張リ重複セル內皮アルモ樹脂道ノ片影ヲモ見ズ、にがな屬やなぎたんぽぽ屬わうごんさう屬等ニ至レバ內皮ハ單一也、斯カル漸進的移行ノ跡ヲ究ムル又面白カラズヤ。

他方ニ於テハ舌狀花亞科以外ノ植物ニテ乳管ヲ有スル者一ニシテ足ラズ、グンデリア、トルネホルチ（*Gundelia Tournefortii*）ノ如キ其一也、彼ハ莖及ビ葉ノ中ニ完全ナル乳管ヲ有ス、其結果トシテ是等ノ部分ニハ樹脂道ノ存在ヲ認メ得ザルハ注目ニ價ヒス、又コール（Col）氏ハガザニア、スプレンデンス（*Gazania splendens*）及ビカルリナ屬（*Carlina*）ニ於テ、ケルクホッフ（Kerkhoff）氏ハおけら屬ニ於テ乳管ヲ發見セリ。前記ガザニア、スプレンデンスノ乳管ハ最モ原始的狀態ニアリ、相幷ベル細胞ハ其側面膜壁ニ於テ處々消削セラレ居ルモ未ダ其間ニ橫ニ連鎖ヲ架スルニ至ラズ加フルニ上下ニ相連ナレル細胞間ノ膜壁ノ尙ホ鎔去セラレテ彼我交通スルニ至ラズシテ殘存スル事屢アリ、斯ル乳管ハ只莖及ビ葉ノ中ニ限ラレ

理ニ於テ最モ眞ニ近キガ如シ

ナホ著者ハ本植物ノ有性代及ビ無性代ヲ論ジ系統上ノ考案ヨリシテソノ無性代ニ相當スルハ造果器内雌雄核ノ對ヲナスニ始マリ造嚢絲ヲ經テ子嚢芽胞母細胞即チ造嚢細胞ニ至リ此處ニ兩性核ノ合一シタルニ終ルト

(M. Ishikawa)

◎雜　錄

○菊科植物ノ内部分泌器官

纐纈理一郎

分泌(Secretion)ト　排泄(Excretion)トノ區別ハ動物生理學上ニ於テモ確然タル區別ヲ爲シ得ズ植物生理學上ニ於テハ殊ニ然リ本文中時宜ニヨリ或ハ彼ヲ用ヒ或ハ此ヲ用ユ讀者其字義ニ徐リニ重キヲ置ク勿レ

菊科植物ハ最モ發達シタル且ツ最モ多樣ナル分泌器官ヲ有スル科ノ一ニシテ樹脂道アリ分泌腔アリ分泌細胞アリ加フルニ複雜ナル乳管系ヲ以テス、然レドモ一植物ニ是等總テノ器官ガ共存スルニハアラズ又一植物ガ其一種ヲ限リテ所有スルニモアラズ此間ニ興味アル發育關係ノアリテ存ス。

本科植物ヲ大別シテ筒狀花亞科(Tubuliflorae)及ビ舌狀花亞科(Ligulifloae)ノ二トス、前者ニハ一般ニ樹脂道ノ發育ヲ見、後者ニハ乳管系ノ存在ヲ見ル、以下是等兩者ヲ初メ他ノ分泌器官ノ分布、發育程度ニ就テ稍詳細ニ述ベシメヨ

(一)樹脂道(Resin-canals)ハ筒狀花亞科ノ大多數ニ於テ之ヲ見、舌狀花亞科ニシテ之ヲ有スルヒノハ二三ニ過ギズ、離生ニヨリ内皮(Endodermis)細胞ノ分裂ニヨリテ生ズル細胞間ニ生ジ其外側ニ沿ウテ走ル、根、莖、葉ノ凡テヲ貫通スルカ若シクハ其一二ニ限ル、尚ホ此内皮ニヨル樹脂道ノ外ニ髓及ビ初生皮層中ニ生ズル者アリ、時ニハ又第二次組織中ニモ存ス。

(二)乳管(Laticiferous vessels)ハ舌狀花亞科ノ特徵ナリ、其總テニ於テ之ヲ見ル、一定ノ配列ヲ爲セル細胞ガ上下左右ニ連鎖癒合(Fusion)シテ網狀組織ヲ爲シ根、莖、葉ヲ通ジテ一系ヲ爲ス、莖ニテハ圍靱皮基本組織(Peripheral)中ニ時トシテハ第二次靱皮部中ニ見、髓ノ中ニ靱皮系束ヲ有スル場合ニハ又其外側ニ於テ之ヲ伴フ、葉脈ニ從ヒテ葉中ニ入ル、根ニ於テハ主ニ初生靱皮部中ニアリ第二次靱皮部中ニモ亦無キニアラズ。

(三)分泌腔(Secretory cavities)ヲ有スルモノハ多カラズ葉中ニ透明ナル點若シクハ線トシテ現ル、離生ニヨルアリ破生ニヨルモ有リ、葉以外ニ之ヲ有スルモノ又無キニア

○クラウセン氏『嚢子菌ピロネマ、コンフルエンス發育史』

Claussen, P.: —Zur Entwicklungsgeschichte der Ascomyceten *Pyronema confluens*. Zeitschrift für Botanik. IV, 1 Heft, 1912.

嚢子菌ピロネマ、コンフルエンスノ發育史中雌雄生殖核ノ會合ヨリ子嚢芽胞形成ニ至ル內景ノ委細ハ已ニ千九百年ハーパー氏ノ研究ニヨリテ明カナルヲ得タリ、卽チ雌雄兩核ハ造果器內ニ於テ偶々相合著シ斯カルモノ造嚢絲內ニ於テ幾度カ分裂シ各造嚢細胞內ニ於テ更ニ二個ヅヽ相合著シ後三回ノ分裂ニヨリテ八個ノ核ヲ形成シ以テ八個ノ子嚢芽胞形成ノ因ヲナスモノナリ、而シテ該三回ノ分裂ニ於テハ常ニ十個ノ染色體ノ出現アリテ減數分裂ノ徵ナシト云フ、故ニ若シ雌雄兩核ガ初メ各原數ノ染色體ヲ有スルナランニハ各子嚢芽胞核ハ複常數（ディプロイド）ノ染色體ヲ有スベキ理ニシテ此ノ芽胞ヨリ如何ニシテ原數ノ染色體ヲ有スル生殖核ニ複歸スベキヤハ吝トシテ寔フヲ許サヾリシ處ナリキ、然ルニ近時フレーザー女史及ビ其ノ後輩諸氏ハ連リニ子嚢芽胞造成核ト子嚢芽胞核間ノ徑路ヲ研究シ遂ニソノ間ニ二回ノ異型分裂ト一回ノ同型分裂ノアルヲ發見シ、卽先ヅ異型分裂起リ同型分裂之レニ次ギ後再ビ異型分裂ニレガ嚴ヲナスモノニシテ最後ノ異型分裂ニ端式（プラキマ）滅數分裂（イーラシス）ノ名稱ヲ下セリ、蓋、女史ノ研究ニヨリテ子嚢芽胞核ハ二回ノ異型分裂ヲ經タル爲メ始メテ原數ノ染色體ヲ有スルニ至ルコト闇明セラレタルナリ、然レドモ滅數分裂ノ直後更ニ所謂端式滅數分裂ナル異型分裂ガ從フコトハ事實徐リニ奇拔ニシテ吾人等之ヲ信ゼントシテ然モ躊躇セザルヲ得ザルナリ、而シテ斯學今時ノ知識ヨリ推考スルニ子嚢芽胞形成ニ當リテ滅數分裂ノ起ルハ正ニ有リ得ベキコトニシテ更ニ逆リテ雌雄核合著後尙一回ノ核合一ノアルハ甚ダ異トスベキ事ナルニ似タリ、此處ニ於テカ本著者ハ此ノ間ノ消息ヲ明カニセントテ之ニ志シ已ニ千九百七年豫報ヲ出セシガ今回之ガ端ヲ補ヒテ公ニセリ、卽多數ノ雄核ハ藏精器ヨリ授精絲ヲ經テ造果器ニ移ル此處ニ造嚢器內ノ雌核ト互ニ偶ヲナシテ座セド決シテ相合著スルコトナク其マヽ造嚢絲內ニ入リ各數回ノ分裂ヲ試ミ最後ニ各造嚢細胞內ニ於テ一雄系核ハ一雌系核ト初メテ合著ノ運ニ就クモノナリ此處ニ於テカ「シナプシス」起リ「デアキネーゼ」期ニ入リテハ明カニ廿四個ノ染色體ハ二個ヅヽ接著シテ現ハレ次デ異型分裂ヲ經テ同型分裂ニ移ル此ノ際十二個ノ染色體ヲ讀ムヲ得ベク次デナホ一回ノ正型分裂ヲ經テ（此ノ際亦十二ノ染色體ヲ算シ得ベシ）子嚢牙胞核ハ形成セラル、者ナリ、要スルニ一度造嚢細胞內ニ於テ倍數ノ染色體ヲ有スルニ至リタリシ核ハ此處ニ於テカ原數ノソレニ複歸スル者ナリト、蓋

蟲ノ屍體ヲ發見スベシ

之レヲ要スルニ桑ノ膏藥病菌ハ *Septobasidium pilicellatum* (Yow.) Pat. 菌ニ非ズシテ *Helicobasidium Tingitae* Mylab. 菌ナリ而シテ初メ桑ノ貝殼蟲ノ分泌物ニヨリテ生育蔓延スルヲ以テ貝殼蟲ニ伴隨シテ發生シ直接ニ組織ヲ侵サズ其器械的ノ被害ニヨルモノナルガ故ニ其害急速ナラザルナリ (完)

◎新著

○中井猛之進氏「朝鮮植物誌」

Nakai, T.: Flora Koreana (Journal of the College of Science, Imperial University of Tokyo, vol. XXVI. Art 1. 1909 and vol. XXXI. 1911)

朝鮮合邦ナルヤ氏ノ研究モ亦成リテ茲ニ前後二回ニ亙リ朝鮮植物誌ノ名目ヲ以テ公ニセラレタリ著者ハ重ニ内山富次郎氏ノ採集品幷ビニ親シク彼ノ地ニ採集セラレシ標本ヲ基トシ之レニ加フルニ諸氏ノ採集品ヲ材料トシテ論究セシモノニシテ System ヲベンサム、フッカー兩氏ノ式ニ採リ其ノ含ム所ハ百四十九科六百六十一屬千九百七十一種百八十三變種ノ多キニ達セリ今之レヲ細別スレバ

第一卷 Ranunculaceae ヨリ Dipsaceae ニ至ル

	科	屬	種	變種
在來知ラレタルモノ	五十五	二百四十一	四百三十	十五
朝鮮植物誌ニ新ナルモノ	六	三十六	百三十八	二十八
著者ノ發見ニカヽルモノ			二十二	十

第二卷 Compositae ヨリ Eriocaulaceae ニ至ル

	科	屬	種	變種
在來知ラレタルモノ	七十六	三百〇九	九百九十四	六十三
朝鮮植物誌ニ新ナルモノ	十三	七十四	三百六十一	五十一
著者ノ發見ニカヽルモノ		一	二十六	十六

各卷末ニハ鮮明細密ナル圖版ヲ附シ其内五枚ノ他ハ總テ氏ノ新種幷ビニ變種ニシテ計三十五枚ニ及ブ又第二卷ノ終リニ特ニ兩卷ノ追加幷ビニ Cyperaceae Coreanae in le Monde des plantes editae ナル題目ノ下ニ同地莎草科四十一種ヲ列記セリ

此ノ如ク朝鮮植物誌ニ數多ノ科屬種等ヲ加ヘ尚ホ著者ノ發見ニカヽル新屬 *Hanabusaya* ヲ世ニ紹介セラレタルハ實ニ本著ノ特記スベキ點ナリトス 又世人ノ園藝トセル *Galium* 屬モ該地産ノ種類ノミナラズ本邦滿洲産ノモノヲ合セテ細密ナル檢索表ヲ附シ猶卷末ニハ兩卷ノ索引ヲ添ヘタリ (Komatsu)

ニヨリテ建設セラレ Bulletin de la Société Botanique de France ニ記述セラレタルモノナレバ Priority ニヨリテ余ハ *Stypinella* 屬ヲ *Helicobasidium* 屬ノ異名トシテ取扱ハントス依ツテ桑ノ菌藥病菌ハ *Helicobasidium Tanakae* MIYABE ナル學名ヲ宛ツルヲ正當ナリト愚考ス卽チ

Helicobasidium Tanakae MIYABE.

松村任三—帝國植物名鑑上卷 P. 146.

Syn. *Stypinella Tanakae* MIYABE.

澤田玆太郎—內外普通植物誌下等植物篇 P. 315.

Syn. *Septobasidium pedicellatum* (SCHW.) PAT.

出田新—日本植物病理學(1904) P. 426.

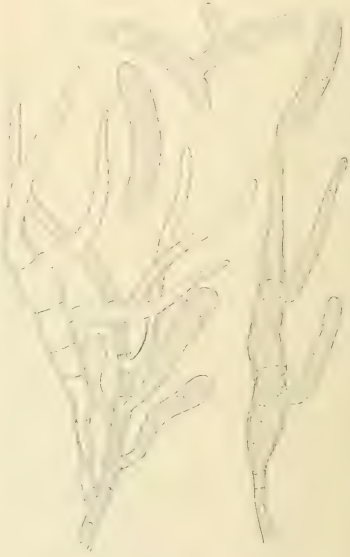
出田新—日本植物病理學(1911) P. 592.

山田玄太郎—植物病理學 P. 325.

Syn. *Septobasidium* Sp.

白井光太郎—最近植物病理學 P. 356.

猶ホ此菌ノ菌絲ハ樹枝上ニ堅ク附著スルモ絕ヘテ組織內ニ穿入スルコトナク其菌膜層ノ緊壓力ニヨリテ枝ノ增大ヲ妨グルヲ以テ遂ニ枝條ノ衰弱ヲ來シ時ニ致死セシムルニ至ル而シテ此傳播ハ必ズ桑の貝殼蟲ニ伴隨スルモノナリ桑の貝殼蟲 *Diaspis pentagona* JARG ハ桑ノ外梅、櫻、李、杏、桃、林檎、梨、葡萄、胡桃、茶、山吹、柳、山椒、桐、梧桐、海桐及すぐり等ニ寄生スルモノニシテ本病菌ハ此等ノ木ノ主要ナルモノ卽チ桑、梅、櫻、李、杏、梨等ニ發生スルヲ見ル又本病菌ノ存在スル枝條ニハ必ズ桑の貝殼蟲ノ寄生ヲ見ル卽チ貝殼蟲ノ分泌物ガ枝上ニ附著スル所ニ本病菌ノ胞子ガ落下スル時ハ發芽後ソレヲ養料トシテ繁殖蔓延シ菌絲ノ層ヲ形成シ漸次範圍ヲ廣メテハ貝殼蟲ヲ埋匿シ益々其處ニ廣ガルモノナリ故ニ菌絲層ヲ離剝シ或ハ之レガ斷面ヲ作ル時ハ屢々樹皮ト菌絲層トノ間ニ貝殼



桑ノ膏藥病菌ノ擔子嚢及胞子
(*Helicobasidium Tanakae* MIYABE)
(Reichert 4×7a)

ニ內容ヲ含ムモ漸次老成スルニ從ヒ稍々紡錘狀トナリ橫ニ二—四ノ隔膜ヲ形成シ直生又ハ彎曲スルモ擔子柄ナリ擔子柄ハ大サ四九—六五×八—九μアリ其各細胞ヨリ各一ノ小梗ヲ抽出ス（頂端ノ細胞ヨリハ其頂端ヨリ出テ他ノ細胞ニアリテハ側邊ヨリ抽出ス）小梗ハ長クシテ比較的大形彎曲シ單稀ニ分枝シ大サ三五—六三×三·五—四μアリ其頂上ニ各一個ノ胞子ヲ著生ス胞子ハ無色單胞長形ナル鐮狀ニシテ頂端圓頭大サ二七—四〇×四—六μアリ發芽シテ菌絲トナル

是ヲ以テ之レヲ見レバ膏藥病菌ハ *Hypochnaceae pellicularem* ニ見ルガ如キ圓キ前擔子嚢(Protobasidium)ヲ形成スルコトナク菌絲ヨリ直チニ擔子柄ヲ生ジ其形態ハ全ク同ジカラズ卽チ確然タル別屬種ナルハ一見シテ誰シモ認メ得ベキモノナリ

然ラバ我國ニ產スル種類ハ如何ナル種族ニ屬スルモノナルカヲ檢索スルニ擔子菌類（Basidiomycetes）—眞正擔子菌類(Eubasidii)—多胞擔子菌族(Protobasidiomycetes)—木耳菌區(Auriculariales)—木耳菌科(Auriculariaceae)ニ納ムベキモノニシテ *Helicobasidium* 又ハ *Stypinella* 屬ノ菌類ナリ而シテ松村任三氏著帝國植物名鑑隱花部ニハ此病原菌ヲ *Helicobasidium Tanakae* MIYABE トナシ又齋田功太郎氏著內外普通植物誌下等植物篇三一五頁ニハ *Stypinella Tanakae* MIYABE トナセリ此等ノモノニ就テハ別ニ記文ナキモ同好ノ間ニ發表セラレタルモノナルベシ然ルニ兩者ノ何レニ適從スベキカト云フニ *Stypinella* 屬ハ西曆一八八七年 SCHROETER 氏ノ創設ニ係ルモノニシテ SACCARDO 氏ハ之レヲ *Helicobasidium* 屬ノ異名ナリトシ又 ENGLER 氏ハ *Helicobasidium* 屬ヲコノ異名トナセリ又其他ノ著者モ何レニ歸スルトモナク隨意ニ之レヲ採用セルモノヽ如シ然ルニ *Helicobasidium* 屬ハ西曆一八八五年 PATOUILLARD 氏

與ヘ又山田玄太郎氏著植物病理學三二五頁及安田篤氏著植物學各論四五八頁ニモ之レニ從ヘリ而シテ舊年ニ於テハ勿論現今ニ於テモ猶此學名ヲ當ツルモノ多シ

抑モ *Septobasidium pediculatum* (Schw.) Pat. 菌ハ如何ナル形態ヲ有スルモノナルカヲ尋ヌルニ此菌ハ Schweinitz 氏ガカロリナ、セイロン、ニウヨーク、アラバマ、キユーバ、ニユージーランド等ヨリ得タル標本ヲ檢シテ初メテ *Thelephora pediculata* Schw. ナル學名ヲ與ヘタルモノニシテ後 Patouillard 氏ハエークワトリア、北亞米利加、キユーバ、印度等ヨリ得タル標本ヲ精檢シテ *Septobasidium* 屬ニ納ムベキモノナリトシ Schweinitz 氏ノ命名セル種名ヲ採用シテ *Septobasidium pediculatum* (Schw.) Pat. ト改メタルモノナリ今 Saccardo 氏ニヨリ其記載ヲ見ルニ

Pileo e filamentis rigidis constans, basidiis, latoralibus, hyalinis, glolosis, basi brevi stipitatis, dein rotundato-piriformibus, demum recurvis, septatis.

トアリ卽チ前擔子囊 (Protobasidium) ハ無色球形ニシテ短柄ヲ有シ後圓狀洋梨形トナリ更ニ彎曲シ隔膜ヲ有スル擔子柄ヲ生ズルモノナリ又 Delacroix 及 Maublanc 氏著 Maladies parasitaires des Plantes Cultivées P. 117 ニ Patouillard 氏ニ從ヘル圖ヲ擧ゲタルヲ見ルモ記載ト全ク一致ス

翻ツテ我國ニ產スル桑藥病菌ハ如何ナル形態ヲ有スルカ余ガ實見セル所ニヨリテ記述セバ

囊子擔及囊子前擔ノ菌
Septobasidium pediculatum
(Schw.) Pat

樹枝上ニ褐色—淡帶紫褐色—暗褐色ノ天鵞絨狀ノ膜層ヲ附著シ初メ圓狀ニ後不規則ニ廣ガリ一〇セ、メ、ノ廣サニ達スルコトアリ一見地衣ノ如キ觀ヲ呈シ周圍ニ極メテ狹キ灰白色ノ薄膜層ヲ圍ラス之レ皆菌絲ノ錯綜ニヨリテ形作ラレタルモノナリ

菌絲ハ分枝シ褐色ニシテ隔膜ヲ有シ比較的厚膜ニシテ內ニ稍々一列ニ顆粒物ヲ含ム橫徑三—五ミクロン錯綜シテ厚サ約一ミ、メ、ノ層ヲ作ル其上層ニ於ケル菌絲カ多分枝シ其處ニ棍棒狀ノ囊體ヲ作ル囊體ハ初メ無色單胞ニシテ密

チ先ヅ採集家川上技師幷ニ佐々木舜一氏ニ該標本ヲ與ヘラレタルコトヲ深謝セズンバアルベカラズ該植物ハやっこさう屬ニ屬ス該屬ハ昨年十二月ノ本誌ニ於テ牧野富太郎氏ガやっこさふ科ト云フ新科ヲ設立セラレ且ツ論文中ニ掲ゲラレタル一屬ナリ該屬ハ内地ニテハ九州ノ一地方ニ發見セラレしひのき ノ上ニ寄生スルモノナリ臺灣やっこさうハ臺灣南部ノ一部阿猴附近ニ於テあらかしノ根上ニ寄生スルモノナリ余ハ此ノ日本特有ノ新科ニ屬スル且ツ日本特有ノ新屬ニ屬スル一新植物ガ臺灣島ニ發生セラレタルヲ見テ余ガ嘗テ臺灣高地帶植物誌ニ論ジタルトコロノ日本臺灣植物區系ノ相似說ヲ思起サヾルヲ得ズ臺灣產ノ新植物ハ之レヲやっこやう *Mitrastemon Yamamotoi* Makino ニ比スレバソノ形狀頗ル大ニシテ三倍乃至四倍ノ大サヲ有ス且ツ蒴室圓柱狀乃至ハ長圓形ナリ後者ハ蒴室圓形乃至ハ卵形ナリ胎坐ノ數ハ内地產ノモノハ十二又ハ十四ナドレモ臺灣產ノモノハ十六乃至十八ナリ余ハ不幸ニシテ未ダ開花セル標本ヲ得ズト雖モソノ形狀ノ大ナルコト蒴室ノ圓柱狀ナルコト乃至蟲形ナルコト及ビ胎坐ノ多數ナルコトニヨリ之レヲ一新種ナリト考ヘ之レヲ採集家川上技師佐々木舜一氏ノ記念トシテたいわんやっこさう *Mitrastemon Kusakii* Hay. ト命名セントス

以上述ベタル四種ノ重要ナル臺灣產植物ノ學術的記載ハ本誌歐文欄内ニ就キテ見ラレンコトヲ望ム (終リ)

桑ノ膏藥病菌ノ學名ニ就テ

澤田兼吉

Sawada, K., On *Helicobasidium Tanakae* Miyabe.

桑、櫻、梅、李、楮、かぢのき等ノ枝上ニ發生シ堅ク樹皮上ニ附著シ被害ヲ及ボスコトアル膏藥病菌卽チ俗ニ桑ノ膏藥病菌トシテ知ラルヽ菌類ハ我國ニ於テ到ル處ニ發見シ得ベク又多クノ我植物病理學書ニ記述セラル白井光太郎氏ハ甚著最近植物病理學三五六頁ニハ之レヲ *Septobasidium* Pat トナシ出田新氏著日本植物病理學(明治二十七年)四二六頁ニハ *Septobasidium pedicellatum* (Schw.) Pat. ナリトシ又同書(明治四十四年)五九二頁ニモ亦之レト同名ヲ

シタルニ氏ハ間モナク更ニ大ナル大株ノ同植物ヲ持來リテ余ニ示サレタリ、之レ實ニ余等ガ完全ナル該植物ヲ採集スルコトヲ得タリシ最初ノ出來事ナリ余ハ該植物ヲ生本ノ儘之レヲ當植物園ノ溫室ニ持來リテ內山富次郎氏ノ注意ノモトニ之レガ培養中ナリ該植物ノ外形ハ之ヲしゝらんト云フテ間違ナシ只ソノ裏面ハ蒼白色ヲ呈シ全體平扁狀圓柱形ナリ

(二) へごもどき(羊齒類) *Peranema formosana* Hay. 該植物モ又今回ノ旅行中初メテ阿里山ニ發見セラレタル新植物ナリソノ形狀ハ草本性大羊齒ニシテ高サ三四尺乃至五尺ニ達シテ地下莖ハ短少ニシテ斜上向ヲナス、最モ特性ト稱スベキハ子囊群ノ明カニ有柄ナルコトナリ余ハ最初ニ之レヲ發見シタルトキハ恰モ變形菌ガ一面ニ葉面ニ寄生セルモノナラント思ヘリ之レヲ「ルーペー」ニテ熟視シテソノ子囊群ナルコトヲ確メ且ツソノ羊齒種ナルコトヲ知リテ殆ンド狂喜セリ直チニ佐々木氏ヲ呼ビテ之レヲ示シタルニ氏モ大ニ喜ビテ直チニ强大ナル地下莖ヲ根切ニシテ採集セリ此ノ如キ大形ノ羊齒ニシテ且ツ特殊ナル子囊群ヲ有スル植物ガ何故ニ今日マデ採集セラレザリシヤハ頗ル奇ト云ハザルベカラズ此羊齒ノ屬スルへごもどき屬(*Peranema*)ハ世界中只ニヒマラヤ山、西支那、ルゾン島ノ山中、及ビ臺灣ノ山中ニアルノミナリヒマラヤ及ビ支那ニアルモノハ *Peranema Cyatheoides* ト稱シルゾン島ニアルモノハ *Peranema luzonica* Copel. ト稱シ臺灣ニアルモノハ *Peranema formosana* Hay. 和名へごもどきト云フ

(三) うつぼしだ *Leeanopteris formosana* Hay. 此羊齒ハ之レモ亦余ガ阿里山旅行中初メテ採集セシモノ、一ツニシテ新ニ臺灣植物誌中ニ加フベキ一屬ナリ之レハ多ハ岩石ニ著生シ外見ハなゝめしだ *Polypodium obliquatum* ニ似ユ、然レドモソノ子囊群ハうつぼ形ヲナシテ組織中ニ埋沒ス故ニ余ハ之レニ因ミテ之レヲうつぼしだト命名セリ此ノ子囊群ノ特質ヲ除キテハ該屬ハ毫モ *Polypodium* 屬ト分ツベキ點ナシ

(四) たいわんやっこさう、(やっこさう科) *Mitrastemon Kanehirai* Hay. 該植物モ亦余ガ臺灣旅行中植物館ニテ得タル最モ重要ナル植物ノ一ツナリ該植物ハ昨年川上技師佐々木舜一氏ガ阿猴廳下旅行ノ際發見セラレタル植物ニシテ當時已ニ臺灣博物誌ニらふれっしや植物ノ發見トシテ紹介セラレタルコトアリキ余ハ該植物ノ研究ヲ發表スルニ先

植物學雜誌第二十六卷　第三百四號　明治十五年四月二十日

二三ノ重要ナル臺灣植物ニ就キテ

早田文藏

Hayata, B., On some interesting Plants from Formosa.

余ハ臺灣總督府ノ嘱ニヨリテ去ル一月七日京地ヲ出發シテ臺灣ニ赴キ北部南部ノ一地方ニ植物調査ヲナセリ今回ハ主モニ檜材ヲ以テ有名ナル阿里山ノ森林植物ノ調査ヲ目的トセルヲ以テ阿里山ノ山麓ヨリ山頂ニ至ルマデノ間ニ諸所ニ滯在シテ約二十日間研究ニ從事セリ其際見タル二三ノ重要ナル植物ヲ報道セントス

(一) しまくらぎりしだ(羊齒類)學名 *Drymoglossum Nakaii* Hay. 同羊齒ハ阿里山ノ森林殊ニ松柏科植物帶ト濶葉樹帶トノ間ニアル樫類ノ大樹ノ上ニ著生シソノ數決シテ少シト云フベカラズ然レドモ今日數多ノ採集家ノ同山ニ採集セシコトアルモ未ダ嘗テ之レヲ實地ニ發見セシ人ナカリキ之レ頗ル奇ト云フ可シ余ハ去年ノ暮中井理學士ノ厚意ニヨリテ該植物ノのきしのぶノ標本中ニ混在セルヲ知リテ之レヲ研究シテ之レヲ Bulletin de la Société Botanique de France 誌上ニ公ニセリ余ハ阿里山ニ滯在中該植物ヲ實地ニ研究セリ該植物ハ通常樫ノ大樹ノ上ニ數丈ノ所ニ著生シ之レヲ一見スレバし、らん *Vittaria elongata* ニ相似タリソノ形狀ノミナラズソノ習性ニ於テ、し、らんト全ク同一ナリト云フテ可ナリ勿論之レヲ手ニ取ツテ熟視スレバソノ異ナル點ヲ發見スルコトヲ得ベシト雖モ數丈ノ高所ニアルモノヲ下ヨリ仰視スルトキハし、らんトノ別ヲ認ムルコト殆ンド不可能ナリ之レ曩ニ同所ニ採集セン人々ノ該植物ヲ發見スルヲ得ザリシ原因ナラント思フ余ハ同地採集ノ際ニハ已ニ該植物ノ同地ニ在ルベキヲ確信シタルヲ以テ大樹ノ倒レタルモノアル毎ニ必ズソノ著生植物ニ注意シ、らんノアル毎ニ必ズソノ *Drymoteinium* ニアラズヤト疑ヒ之レニ注意スルコトヲ怠ラザリキ然ルニ幸ナル哉余ハ二本ノ倭少ナル *Drymoteinium* ヲ樹上ニ發見スルコトヲ得タリキ余ハ喜ビテ之レヲ佐々木氏(本會々員臺灣總督府殖産局員ニシテ余ノタメニ特ニ來ラレシ人)ニ示

ノ結晶含有細胞ノ内方ノ膜ヲ「ルセニウムレット」ニテ著色シタル「プレパラート」ヲ示サレタリ。

次ニ岡村氏ハ明治四十年ヨリ伊豆ノ仁科、中木、白濱、稻取ノ諸地ニテ開始セル繁殖試驗、卽チてんぐさノ枝ヲ截斷シ棕櫚繩ニ挿入シテ海底ニ投ゼシ試驗ノ結果ハ其發生ノ如何ニシテ行ハル、ヤハ不明ナレドモ、兎モ角モ有效ナルコト、仁科及ビ房州ニテ試ミシてんぐさノ生長試驗ニ就テ種々ノ實驗ノ結果最モ生長ノ速カナリシモノハ一年ニ長サ二寸ニ達シ、同ジク一年ニシテ結實スルコト及ビてんぐさ各種ノ特徵及ビ其分布等ヲ述ベラレ、且ツ標本竝ニ種々ノ寫眞ヲ供覽セラレタリ。

○退　會

佐藤龜一　小山源治　久住雅治　妹尾岩市

○轉　居

相州鎌倉長谷新宿九十六番地ノ一號　岡　眞三

臺灣臺北東門外街五十四番地　田代安定

○死　亡

下山順一郎

會員藥學博士下山順一郎氏ハ去二月十二日逝去セラレタリ因テ特ニ之ヲ記シテ會員諸君ニ報ジ且追悼ノ意ヲ表ス

東京植物學會

烈ナルモノニアラズ、特ニ北口ニテモ五合目迄ノ登山ハ寧ロ容易ナリト云フ、氏ハ尙富士山植物帶ノ成因生態等ニ就キ一二ノ說明アリ。早田氏ノ植物帶論及ビエルンスト氏ノクラカトー島ノ噴火ニヨツテ其植物ガ全滅シタル後ソノ植物ノ恢復播殖ノ狀態ニ關スル調査報告ヲ紹介セラレ、此島ニ於テハ植物ノ全滅後第一ニ播殖シテ山頂ヨリ海岸迄同時ニ播布シタルモノハ藍藻類ニシテ、羊齒類、顯花植物等ノ先驅トナリ。又其種子ノ苗床トナリシコトヲ述ベ、氏ガ今回赤坂山ニテ採集シメル石灰岩ノ風化片上ニ藍藻類ノ播殖シタルモノヲ顯微鏡ニテ示シ、又同地方ノ砂岩中へやまはんのきニ附着シ居ル根菌ガ深ク侵入セル岩石標品ヲ示シ、所謂風化作用ト云フ作用ハ之ヲ解剖スレバ種々ノ生物部類ノ種々ノ作用ヲモ含有スル總稱ニ外ナラザルナラントノ說ヲナセリ。又富士山ノ如キ火山ニテモ其植物帶等ノ形成ニハ其第一、二、三期等ニ生ジ來ル植物ニ順序アルベク、其播殖分布ノ遲速ニ大ナル關係アルハ風ニシテ胞子種子等ノ輕クシテ散リ易キ羊齒類、蘭科、菊科植物等ハ種類多ク又噴火後ノ土地ノ如ク植物ニトリテ不利益ノ土質ニハ松柏類、はんのき類、蘭類ノ如ク根菌ヲ有スルモノ播殖シ易ク、或ハ萱科ノ如ク根塊バクテリアヲ有スルモノヨリ生育シ得ベク、是等ノ關係ハ早田氏ノ調査ニカヽル植物ノ種類ヲ材料トシテ考察シテモ稍事實ニ近キガ如ク思ハル、但シ分布播殖ノ狀態ヲ決定スルハ決シテ是等ノ事項ノミニヨラズ、他ニ種種ノ考察スベキ條件アルハ云フ迄モナシトセリ。兎モ角今後富士山植物ノ過去現在未來ノ研究殊ニ割合ニ人爲ヲ免カレ居ル灌木帶及ビ草木帶ノ研究ハ割合ニ簡單ニシテ有利ナルベシト。

明治四十五年二月二十四日午後一時半ヨリ小石川植物園內植物學教室ニ於テ本會例會ヲ開ク其講演左ノ如シ。

一、「テクニック」雜話　理學士　藤井健次郎君

二、てんぐさニ就テノ話　理學博士　岡村金太郎君

藤井氏ハ(一)過般富士山雪中登山ノ經驗上植物等ノ雪中撮影ニハ寫眞機ノ三脚ガ積雪中ニアツテハ自由ニ動カスコト能ハザルヲ以テ三脚臺ト暗箱ノ中間ニ運動自在ナル一本ノ短カキ關節軸ヲ裝置スルノ必要アルコト（此裝置ハ獨逸製小形ハ代價三四圓ナリ）ヲ注意シ(二)雪景又ハ花等ノ撮影ニハ正色乾板ト黃色濾光機トヲ用キルコトガ吾々素人ニモ實際大イニ有效ニシテ普通乾板ヲ用キタル寫眞ト前記ノ法ニヨリタル寫眞トハ雲泥ノ差アルコトヲ三色すみれノ花ノ寫眞及ビ「色見本」ノ寫眞ヲ示メシテ說明シ、(三)顯微鏡用二三種ノ特別「レンズ」ノ說明、(四)ゆづりは其他數種ノ植物ノ普通表皮細胞ニモ葉綠粒及ビ澱粉ノ存在スルコトヲゆづりはノ「プレパラート」ニテ示シ、(五)普通細胞膜ノ一成分タル「ペクチン」質ガ殆ンド他ノ含有物ナシニ厚ク現出シ居ル一例トシテゆづりノ葉ノ表皮

adenocrasis, LINDL. ナリト誤リ來リシコトヲ述ベラレタリ、サレバ以後各國ノ學者ハ皆やまざくらニ此學名ヲ附スルモノナキニ到ル可シ

而シテ終ニ予ハ同號ニ於テやまざくらノ學名トシテハシーボールド（P. F. SIEBOLD）氏 Synopsis Plantarum Oeconomicarum Japonicarum.（1827.）中ニ記シタル *Prunus jamasakura*, ガ適當ナラント云ヒシガ元來此名稱ハ同氏ガ *Pr. jamasakura*, Japon.（日本人ノやまざくらト稱スルぶるぬすノ義）トシテ記シタルモノニテ當時同氏ニハやまざくらノ性狀ニ就キ凝點アリテ眞正ノ學名ヲ命ズルニ到ラズ却テ之ト同時ニ栽培櫻ニ *Prunus donarium*, SIEBOLD. ナル學名ヲ下シタリ。

此學名ノ植物ハ栽培櫻ナルコトハ其記事ニヨリ明白ニ知悉シ得ルト同時ニ栽培櫻ハ野生ノさくらヨリ來リシコト亦明ナリ

此ヲ以テやまざくら一團ノ總合學名ニハ *Prunus donarium*, SIEBOLD ヲ採用スベキコト本誌同卷二九九號二五九頁ニ記シタルガ如クニシテ同ク栽培品ニ命ゼシ *Pr. serrulata*, LINDL. 1830. ハ其異名ナリ

而シテやまざくら一家ノ亞分類ニ就テハ各學者ノ間ニ種種ノ見解アラン。

◎東京植物學會錄事

○例會記事

明治四十五年一月二十七日午後一時半ヨリ小石川植物園內植物學教室ニ於テ本會例會ヲ開ク其講演左ノ如シ。

一我邦ニ產スル *Artemisia vulgaris* ノ諸變種

（標本供覽）　理學士　中井猛之進君

一富士山冬期旅行談　理學士　藤井健次郎君

先ヅ中井氏ハ所謂よもぎ（*A. vulgaris*）ガ其葉形、花ノ大小及ビ色、毛ノ多少、花序ノ形及ビ疎密、莖ノ大小等ノ諸性質ニ於テ其變化極メテ多樣ナル事ヲ指摘シ終リテ是等諸形ノ標本ヲ供覽セラレタリ。

次ニ藤井氏ハ氏ノ今回冬期休業中十二月廿九日ヨリ一月七日ニ至ル富士地方及ビ大垣在赤坂山ヘ出張ノ節ノ實地觀察事項等ヲ述ベラレ、先ヅ冬期富士登山ノ準備及ビ實地觀察事項等ヲ述ブルトコロアリ。氏ハ吉田口（北口）ヨリ登山セシガ當日一月五日ハ五合目ノ室卽チ松柏林ノ達スル最高極限ノ地點ニ夜ヲ徹シ、翌六日朝灌木帶ナル六合目ニ達シ、此間ノ植物ノ冬期ノ狀態ヲ觀察シ、撮影及採集ヲナシテ其日ノ中ニ下山セリト。植物ノ雪中狀態ノ寫眞ナドヲ示セリ。此兩日間ノ最低溫度ハ攝氏氷點下約九度七分位ニシテ明治十三年一月ニ於ケル東京ノ最低溫度ト大差ナク、從テ人ノ單ニ想像シ勝ナル如ク寒サ酷

ノ定メラレタル時ノ先後ハ之ヲ詳ニセズ此植物ハ四國ノミナラズ畿内（松田採）山陽道（二階重樓氏採）等ニモ産スルコト知ラレタリ余又岡眞三氏江蘇省蘇州採取、黄以仁氏同省常州惠山採取、鈴木珪壽氏浙江省杭州採取ノ標品等ヲ檢スルニこいぬがらしト定ムベキモノヲ認メタリ從來支那ニハ *Nasturtium microspermum* DC ト稱スル種類アルコトハ二三ノ學者ノ報ズル所ナレドモこいぬがらしノ産スルコトヲ報ゼズ FRANCHET 及ビ SAVATIER 氏ガ其著書（Enum. Pl. Jap. II. 277）ニこいぬがらしヲ記載スルニ際シ、*N. microspermum* ト相違スル由ヲ記シ果梗ノ長サハ長角ノ約五分一ニシテ花柱ハ明ニ存スト云フ點ヲ *N. microspermum* ノ標徴トセラレタレドモ此標徴ハこいぬがらしニモ認ムルヲ得ベシ之ニ因テ按ズルニ *N. sikokianum* ハ特別ノ種トシテ存スベキモノニアラズシテ *N. microspermum* ト併合セラルベキモノナラン歟、余ハ未ダ徹底的ノ標品ヲ見ズ故ニ疑ヲ存ス（本誌第二十卷、一〇五頁、こいぬがらしノ條參照）

○ひとりしづか（*Chloranthus japonicus* SIEB.）ノ類ニ就テ

松田定久

ひとりしづか及ふたりしづかノ二種ハ頗ル相類似シ花ナキ標品ニテハ往々區別ニ苦ム事アルガ支那ニ産スル種類ニテ一層ひとりしづかニ近似スルモノアリ同屬中ノ同區分（*Herbacei*）ニ屬シ *Ch. Fortunei* SOLMS ト云フ一般ノ形狀ニテハ殆ド區別シ難シ但ひとりしづかニテハ三本アル雄蕊ノ内中央ノモノ葯ヲ生ゼズ又葯隔ハ五ミ、ミ、ニ足ラザルモ *Ch. Fortunei* ニテハ中央ノ雄蕊モ葯ヲ生ジテ完全ナリ又葯隔ハ一〇ミ、ミ、餘ニ達スルヲ以テ二者ヲ區別シ得ベシ余ノ檢シタル標品ハ本多厚二氏ガ浙江省杭州紫雲洞ニテ採集セラレタルモノナリ余ハ又 FORBES 氏鳳凰山（同名ノ山多シ滿洲ノニハアラズ）ノ採集ニ係ル一四一六號ノ標品ヲ見ルヲ得タリ此標品ニハ *Ch. japonicus* SIEB ノ命名アレドモ是レハ偶然誤ヲ傳ヘタルモノニシテ其花ヲ檢スレバ正ニ *Ch. Fortunei* ナリ（但シ眞ノひとりしづかモ支那ニ産スルコトハ二三ノ學者ノ報ズル所ナリ）

○再やまざくら一系ノ學名ニ就テ

小泉源一

予ハ本誌廿五卷二九五號ニ於テ *Prunus pseudocerasus*, LINDL. ハ支那櫻桃ニシテやまざくら一系ノモノナラザルコトヲ明白ニセシガ近時ユッチンソン（J. HUTCHINSON.）氏モ亦リンドレー氏ノ原標本ヲ檢シ（CURTIS'S Botanical Magazine, IV th. Ser. Vol VII, no. 84,（Dec. 1911.）ノ第八四一一圖版ノ說明ノ内ニ從來やまざくらノ學名ヲ *Pr. pse-*

死還魂草ト云フト、

○"*Thyrocarpus Sampsonii*" ト命名セラレタル標本ニ就テ

松田定久

支那湖北ノ地ニテ Henry 氏カ採集セラレタル植物ニテ標本番號八二三 *Thyrocarpus Sampsonii* ト命ゼラレタル紫草科ノ植物アリ先年余ハ稻並幸吉氏ガ湖北採集ノ標本ヲ檢スルニ際シ同一ノ植物アルヲ見テ此學名ヲ襲用セリ蓋シ Henry 氏標本ノ番號八二三ハ Hemsley 氏ノ支那植物目錄ニモ之レヲ揭ゲテ公ケニセラレタルモノニテ余ハ之レヲ信賴セルナリ然ルニ其ノ後紫草科ノ他ノ植物ヲ檢スルニ際シ Henry 氏ノ番號八二三ノ標本ハ *Bothriospermum* 屬ノ植物ニシテ *Thyrocarpus* 屬ニアラザルコトヲ檢出セリ此ニ屬ハ果實ノ形狀ニ於テ劃然タル區別アリ之レニ因テ余ハ意ヘラク日本ニ分配セラレタル八二三號ノ標本ハ命名ニ誤謬アルモ Kew 植物園ニ藏スル標本ニシテ Hemsley 氏ノ著書ニ引用セラレタル八二三號ハ必ズ正當品ナラント斯ク思惟セルヲ以テ目下英國ニ留學ノ武田久吉君ニ左ノ標本ヲ檢閱セラレンコトヲ請ヒタルニ本年二月ニ至リ左ノ報ヲ得タリ

上略 Henry no. 823 標本ヲ Kew ニテ檢査致シ候處右ハ Index Flora Sinensis ニ *Thyrocarpus Sampsonii* ノ名ヲ以テ記載セル所明カニ候ヘ共臺紙ノ一隅ニ *Bothriospermum Kusnezorii*? ト記入シアリ標本ハ果實無キ爲判斷ニ苦ミ候 下略

之レニ因テ案ズルニ Kew ノ標本八二三號ハ果實ナキ爲メニ不幸ニシテ誤認セラレタルモ日本ニ分配セラレタル同番號ノモノハ幸ニ果實存スルガ爲メニ *Bothriospermum* 屬ノモノナルコト分明トナリタル次第ニテ余ハ武田君ノ好意ヲ深謝スルト共ニ此ノ疑ハシキ標本ノ誤認セラルヽニ至リタル顚末ヲ報告ス尙ホ余カ稻並氏採集ノ品ニ與ヘタル *Thyrocarpus* ノ名稱ハ取リ敢ヘズ本誌第二十五卷四九四頁(昨年十二月發行)ニ *Bothriospermum Kusnezowii* Bge. ? ト訂正ヲ加ヘ置ケルヲ以テ讀者諸君ノ高諒ヲ祈ル

○こいぬがらし(*Nasturtium sikokianum* Fr. et Sav.)ノ支那ニ産スルコトニ就テ

松田定久

此植物ハ從前 *N. palustre* DC. ニ混ジテ居リタルヲ故矢田部博士之ヲ檢出シテ *N. sikokianum* ト定メ且しこくいぬがらしノ和名ヲ命ゼラレタリ其標品ハ土佐產ノモノニシテ博士ノ手記存セリ牧野富太郎君ハ別ニ土佐產ノ標品ニ付キ現今通用スルこいぬがらしノ和名ヲ撰マレタリ和名

眠期ニ於テ形成層ガ癒合組織ヲ形成スルコトニ就テ其ノ觀察ヲ述ベ總テ冬眠セル梢ハ生長ニ必要ナル原料ヲ貯藏セルモノナリト云ヘリ、モーリッシ氏ハ之レニ次ノ事項ヲ追加セリ則チ若シ枝ノ創面ニ於テ癒合組織ガ生成セラル、場合ニハ芽ハ開發セズ、是レ創傷ノ刺激ニヨリテ一定範圍内ノ養料ガ徵發セラレ新成スル癒合組織ニ向テ集中スルガ爲メ芽ハ毫モ其ノ分配ヲ受ケズシテ止ムガ故ナリト、此ノ論定ハ又タ芽ノ穿傷法ノ解說ニモ適用シ得ベキヤ明ナリ、

○あざみ屬植物ニ乳汁アリ

纐纈理一郎

昨夏偶然あざみ屬（*Cirsium*）某種ノ一花序ヲ摘取シ其ノ切口ヨリ乳汁ノ漏出スルヲ見タリ。本屬ハ乳汁ナキヲ一特徵トスル Tubuliflorae ニ屬ス。爾來讀書ノ際絶エズ是レガ注意ヲ怠ラザリシニ幸ニシテ *Cirsium* 屬ニ乳汁アルヲ記載スルヲ二三箇所ニ散見スルヲ得タリ。サレド本屬ノ總テノ種ニ乳汁アリヤ、又之レヲ含有スル器官ハ何ナリヤハ尙ホ將來ノ研究ニ俟タザルベカラズ。由來菊科植物ノ分泌器官及ビ乳管ノ發育程度ハ Tubuliflorae ト Liguliflorae トノ間ニ確然タル區畫アルニアラズ、此ノ間ニ漸進的移行アルハ文獻ノ證スル所ナリ。菊科植物檢索ニアタリ徐リニ檢索表ニ拘泥スベカラザル也。

○穀精草トハ何ゾヤ

中井猛之進

穀精草屬（*Eriocaulon*）ノ植物ハ花小ニシテ花部ノ構造ハ少クモ十倍以上ノ廓大鏡ヲ用ヰザレバ窺ヒ難ク分類從テ難シ、貝原益軒ノ大和本草ニ「穀精草澤中水田ノ中ニ叢生シ葉中ヨリ一莖ヲ抽ンデ其ノ形薗ニ似テ莖ノ末ニ白花ノ圓キアリ、但シ見分ケガタシ、多クハ眞ノ穀精草ニ非ズ」トアリ、然リ眞ニ見分ケ難シ、サテ漢法頭痛ノ藥トシテ用ヰシ穀精草トハ本草綱目ニ處々有之春生於穀田中葉莖俱青根花竝白色二月三月採花用花白小圓似星云々又曰ク細莖高四五寸莖頭有小白花點々如亂星九月採花陰乾云ニ三月採者誤也トアルモノニテ從來之レニ *E. sexangulare* ガ當テアリシモ其ハ不可ナルガ如シ、漢藥ニ用ヰシモノハ不幸東都ノ藥肆ニ見出シ得ザリシガ理科大學植物學敎室ニ藥種ノ標本トシテ藏スルモノアレバ就テ花部ヲ檢スルニ *E. alpestre*, Hook. et Arn. ナリ又黃以仁氏ガ鄕里江蘇無錫ニテ購求セシモ之レト同種ナリ、*E. sexangulare* ハ雌花ノ萼片三個ナレドモ *E. alpestre* ハ一個ニ癒合セリ。Rumland 氏ニ從ヘバ前者ハ東印度。交趾支那。錫蘭ニ分布シ後者ハヒマラヤ。支那。朝鮮。日本ニ分布ス。但シ日本。朝鮮ノモノハ其變種ナリ。黃氏ノ談ニ同氏ノ鄕里ニテハ兒童之レヲ藥品トシテ嚙ギ俗ニ九

雜錄　○あざみ屬植物ニ乳汁アリ　纐纈　○穀精草トハ何ゾヤ　中井

リ、此際只稍太キ枝ヲ用ヒタル迄ナリ、又一月十六日及ビ二月六日ニ行ヒタル實驗ノ結果水ヲ注射シタル芽ハ常ニ注射セザリシモノニ先ンジ平均一週日ノ早發ヲ示シタリ、之レニ亞デ單ニ穿刺ヲ與ヘタルモノモ多少生長促進ヲ來タセリ

〔實驗、其六〕一九一一年二月十二日、

（材料）チリア、パルビフオリア（*Tilia parvifolia*）ノ潛伏芽（Sitzengebliebene Knospe）

最後ニ全ク趣向ヲ轉ジ熟睡ニ陷レル芽ヲ水ノ注射ニヨリテ覺醒セシムル實驗ヲ試ミントシ十一月十六日約三十ノ芽ヲ點綴セルチリアノ枝數本ヲ溫室ニ入レ置キタリ、モーリッシ氏ハ斯樣ノ芽ハ假令好當ノ生長狀態ニ在ルモ三月初旬ニハ未ダ開發セズト述ベシガ一九一〇年春氏ガ特ニ觀察セル所ニヨレバカ、ル芽ハ早晩枯死スルガ如シ、

氏ハ二月十二日ニ於テ十一月以來溫室ニ納メ置キシ枝ノ數多ノ芽ニ水ノ注射ヲ施シタルニ二月末ニハ已ニ綻ビ初メ、三月初旬ニハ美シキ嫩葉ヲ展開シタリ、然ルニ爾餘ノ芽ハ尙ホ睡眠ヲ繼續シ居レリ、恐ラク後來モ覺醒スルコトナカルベキカ、

〔結論〕　前述ノ實驗ノ結果ヲ總合スルニ水注射法ニ於テ休眠期短縮機能ノ主力ハチリア、プラチフィロスニ就テ既ニ證明セラレタルガ如ク芽ノ毀傷ニ歸スルガ如シ、但シ水ノ注入モ決シテ等閑ニ附シ難キ役目ヲ爲スコトハ論ヲ俟タズ、コハアセルニ就キテノ實驗竝ビニ次ノ試驗ノ結果ニ照シテ明白ナリ、則チ一月初旬むらさきはしどいノ多數ノ芽ニ〇、二五%ノ「キニーネ」溶液ヲ注射シタルニ折シモ此植物ハ抑制的休眠期ニ在リシカバ正常ノ芽ハ日ナラズシテ開發シタリ、然ルニ「キニーネ」ノ注射ヲ受ケタルモノハ、多數ハ枯死シ尙ホ爾餘ノモノハ著シク發生ヲ抑損セラレタリ、此事實及ビ先ニ行ヒタル常用水注射ノ實驗ニ徵スレバ注入セラレタル液ノ一部分ハ當然芽ニヨリテ吸收セラル、コトヲ推定シ得ベシ、芽ノ液體吸收ノ行動ハ種々ノ物質ヲ注射シテ其ノ休眠期ニ影響セシメ得ベキ端緒ヲ與フルヲ以テ殊ニ注意ヲ要ス、

前述ノ如ク此水注射法ニ於テ毀傷ガ有效ナル勢力源タルハ殆ンド疑ナシ卽チ毀傷ガ生長催進作用トシテ働クハ著シキ現象ニシテ再生ノ際ニ於ケル創傷木栓層又ハ癒合組織形成ヲ譬フベキナリ、特ニ形成層毀損後、癒合組織ノ新成セラル、ハ一般ノ現象ニシテ嘗テヨスト氏ノ精細ナル研究アリ、普通休眠期間ニハ形成層ノ活動ヲ見ルコトナキモ、形成層ノ毀損ニヨリテ癒合組織ノ生成セラル、コト稀ナラズ、ヨスト氏ハ休眠期ニ於テ形成層ノ毀損ハ生長ヲモ催進セシメ得ルモノナリト斷定セルガ芽ヲ穿傷セル場合ニハ癒合組織形成ヲモ伴フベケレド、主トシテ正常ノ生長ヲ促進セシムル事瞭然タリ、又ヨスト氏ハ休

一致スルモノナルベシ、

〔實驗、其三〕一九一一年一月十六日及ビ二十三日、

(材料)チリア、プラチフィロス(*Tilia platyphyllos*)

單ニ穿刺ノミニテモ水ヲ注射シタルモノト同樣ニ休眠期ヲ短縮セシメ得ベキモノナリヤ否ヤヲ證明センガ爲、特ニチリアヲ材料トシテ選ビタリ、此ノ植物ハ溫浴法及ビ「エーテル」法ニテ好結果ヲ收メ得タルニ徵シテ、むらさきはしどいトハ異ナリ未ダ所謂偽休眠ノ狀態ニ在ルヲ知ル、

數多ノ梢ニ就テ實驗ヲ行ヒタルニ次ノ如ク極メテ單純ナル結果ヲ得タリ、卽チ水ヲ注射シタル芽ノミナラズ針ヲ以テ刺シタルモノモ亦タ同樣ニ早發ヲ遂ゲタリ、之レニ依テ見レバ穿刺ノミニテチリアノ芽ヲ其ノ冬期休眠(少クトモ偽休眠)ノ狀態ヨリ覺醒シ得ルコト確實ナリ、但シ多クノ場合水ヲ注射シタル芽ハ單ニ穿刺シタルモノヨリ二三日ダケ開發ヲ早メラルヽモノナリ、而シ雙方トモ手術ヲ加ヘザル芽ニ比較シテハ顯著ナル相違ヲ示スヲ常トス、

チリアニテモ亦頂芽ト腋芽トヲ問ハズ、一樣ニ促開法ヲ適用シ得ルモノナリ、

〔實驗、其四〕一九一一年一月十九日、

(材料)アセル、プラタノイデス(*Acer platanoides*)

此穿傷法ヲ開發進純ナル植物ニ就テ實驗センガ爲メ稍久シキ休眠期ヲ有スルアセルヲ撰ビタリ、此ノ場合ニハむらさきはしどい又ハチリアノ場合トハ其ノ趣ヲ異ニシ單ニ穿傷ノミニテハ休眠ヨリ呼ビ起スコト能ハザリキ、然レドモ水ヲ注射シタル芽ノ大多數(約八割)ハ開發ヲ遂ゲ而モ一二週間許リ促進セラレシヲ見タリ、他ノ二割ハ水ノ注射ヲ受ケナガラ綻ビザリシハ如何ト考フルニアセル、プラタノイデスノ芽ノ鱗片ハ樹脂ニテ互ニ粘着シ居ルヲ以テ强力ナル注射ヲ受クルモ水ガ充分其ノ先端迄屆カザリシニ因ルナラン、

因ニ此ノ植物ニテハ頂芽ノミ手術ヲ行フニ適ス、他ノ微少ナル腋芽ハ頂芽ト休眠時期ノ狀況ヲ幾分カ異ニスルガ如シ

〔實驗、其五〕一九一一年一月十六日、

(材料)ぶなのき(*Fagus silvatica*)

ぶなのきハ他ノ樹木ニ比較シテ最モ長キ冬期休眠ヲ保ツモノナリ、ホーワルド氏ハ二月二十六日此ノ枝ヲ培養室ニ納メタリシガ一モ開發ニ至ラズ又三月十七日入レ置キタル梢ハ漸ク二十九日以後(既ニ四月)綻ビタル事ヲ記載セリ、此ノ事ニ關シテハ猶精密ナル攻究ヲ要スト雖モ氏ガ行ヒタル觀察トハ一致ヲ缺クモノナリ、乃チ十一月中暖室ニ据エ置キタルぶなのきノ枝ハ何等ノ手術ヲ加ヘザリシニ拘ラズ三月ノ交ニ至リテ全ク正常ノ發舒ヲ來シタ

雜錄 ○樹木ノ休眠期短縮法ニ就キテ 遠藤

儕斯樣ニ取扱ヒタル芽ニ於テハ針ニテ毀傷シタル處ガ其痕跡ヲ後來發舒シ來ル新條ニ殘スヤ否ヤ ノ疑問起ルベシ、鱗片ノ外面ニ於テハ判然穿刺孔ノ跡ヲ殘スコト勿論ナルガ展開シタル葉片ニ於テハ裂痕ヲ見ルコト殆ンド稀ナリ、又面白キ事ニハ芽ノ軸ニ注射針ガ抵觸シタル場合ニハ、是ヨリ發スル新條ノ基部ニ近ク其痕跡ヲ見ルコト普通ナルガ時トシテハ微瑕ダニ認メ得ザルコトアリ、此場合ニハ假令少量ナリトモ毀損部ニ於テ創面癒合組織ノ形成セラレシヲ想像シ得ベシ、尙針ガ軸ノ中央ヲ穿通シタル場合ニハ當然芽ハ枯死スベキ筈ナレバ穿刺ノ發育刺激作用ハ生長點ヨリ幾何程隔テシ處迄有效ナルカヲ探究スル事重要ナリ、

〔實驗、其一〕一九一〇年十二月十五日、

（材料）むらさきはしどい（*Syringa vulgaris*）

上述ノ方法ヲ以テ凡ソ四十本ノむらさきはしどいノ楢ニ於ケル芽ニ注射ヲ試ミタリ、各枝ノ先端ニハ全ク同格ノ芽ガ二ツ宛、對ヲナシテ着生セル中其一方ニ清潔ナル水道ノ水ヲ注射セリ、然ルニ一旬日ヲ經過スルヤ手術ヲ受ケザル芽ハ已然其隋眠ヨリ覺メザルニ注射ヲ施サレタルモノハ徐々ト而モ健全ニ開發ヲ始メクリ、此二者ノ發育狀態ハ日ニ日ニ懸隔ヲ來シ一月ノ初旬ニ於テ前者ハ漸ク展開ノ機運ニ及ビシガ後者ハ旺ニ發育シテ（單ニ葉ノミヲ荷フモノト花竝ビニ葉ヲ着クルモノトアリ）其丈約四糎ニ達シタリ、注射ノ恩惠ヲ受ケタル芽ハ悉ク同樣ノ繁盛ヲ見ルモノニシテ最頂芽ノミ特ニ早ク發展スルトモ限ラズ、第二或ハ第三位ノ枝ニ於テモ何レ劣ラス早吠ヲ遂グルモノナリ、

〔實驗、其二〕一九一一年一月二十日、

（材料）むらさきはしどい、

第一ノ實驗ニ於テ現ハレタル休眠期ノ短縮（約二週間）ハ芽ニ水ヲ注入セシ效果ナリヤ或ハ單ニ注射針ヲ以テ穿刺シタル結果ナリヤヲ究メンガ爲、同ジくむらさきはしどいノ楢ノ一部ノ芽ニ夫々常用水ヲ注射シ又他ノ部分ノモノニハ唯針ニテ穿刺スルニ止メ置キタリ、然ルニ實驗當時最早むらさきはしどいノ芽ハ抑制的休眠（Unfreiwillige Ruhe）ノ時期ニ在リテ溫室ニ闔ヒタル後二日ニシテ萠發セル程ナリシカバ到底其ノ目的ヲ果ス能ハザリキ、反之水ヲ注射シタル芽ハ假令僅少（略三四日）ナリトハ云ヘ手術ヲ加ヘザルモノニ比シ却テ開發ノ遲滯ヲ來セリ斯ノ如ク芽ノ眞ノ休眠期ガ終了シタル時期ニ於ケル水注射ノ發育抑制作用ハ恰モ溫浴法ノソレト對照シ得ベク又ヨハンセン氏ノ「エーテル」法ガ偸休眠（Nachruhe）ノ末期卽チ芽ガ已ニ自發ノ狀態ニアル時ニ痲醉ガ毫モ促進作用ヲ起サヾルノミナラズ反テ障害ヲ及ボシ痲醉セザル楢ハ「エーテル」或ハ「クロヽフォルム」痲醉ニ陷レルモノト同樣否寧ロ迅速ニ且ツ良好ニ發芽スト云フ事實ト

ハ「エーテル」法ニ於テ芽ノ發育催進ハ樹木ノ成熟ト著シキ關係ナキコトヲ確メ、モーリッシ氏モ同ジク溫浴ノ局部的影響ニ就テ趣味アル實驗ヲ試ミ、溫浴ハ全然局部的ニ働キ唯浸浴セル芽ノミ早ク開發スルモノナル事ヲ示セリ(一九〇八年)之ニ依リ見レバ單ニ一個ノ芽ノミヲ浴セシメ枝ノ部分ハ少シモ浴セシメザル場合ニモ其芽ヲバ促開セシムル事ヲ得ベシ、彼ノ白楊、榛、山茱萸ノ類ガ葉ヲ展開スルヨリモ遙カニ先チテ開花スルガ如キ亦同樣ノ證左トナルナラン、例ヘバ白楊ハ溫室ニ在リテハ既ニ一月初旬ニ滿開スルモノナルガ葉芽ハ同一ノ好情況ニアリナガラ三月ニ於テ始メテ開發ス、又次ノ事實モ此意味ヲ語ルモノナリ、山茱萸科ノ一種コルヌスマース(*Cornus Mas*)ノ枝ヲ十月末暖室ニ貯フル時ハ驟テ開花スレドモ脫落セル葉ノ腋ニ着生セル葉芽ハ未ダ綻ビズ、然ルニ幹部ニ位スル所謂睡眠芽ハ程無ク萠發シ其後ノ發育甚ダ盛ナリ凡テ之等ノ事實ハ多分各個ノ芽ガ獨立ニ其冬期休眠ヨリ覺醒スルニ基クモノニシテ木ノ成熟狀態トハ何等ノ關係ナキガ如シ、此見解ニヨレバ少クトモ理論的ニハ枝條ヲ「エーテル」或ハ溫浴ニ與ラシムル必要ヲ認メズ、反テ各個ノ芽ノミヲ適宜處理スルヲ肝要ナリトス、

從テ其ノ後ノ問題トシテハ如何ニシテ芽ニ出來得ルダケ開發ヲ促スベキ手段ヲ適用シ得ベキカニ傾來セリ、玆ニ砂糖溶液又ハ酵素或ハ酵素ヲ發動セシメ得ベキ刺激物質ヲ撰定シテ之レヲ適用セバ有效ナルベシト雖ドモ先ヅ順序トシテ毀傷及ビ液體ノ注入ガ芽ノ發育ヲ害スルヤ否ヤヲ確ムル必要アルヲ以テウェーベル氏ハ一九一〇年十二月ヨリ以下ニ記載スル實驗ヲ行ヒタリ、

(其方法)任意ノ芽ノ基部卽チ葉痕ノ存スル處ニ於テ注射器(醫科手術ニ使用スルモノ)ノ針ヲ以テ穿刺シ溶液(一、五立方糎ノ水)ヲ芽ニ注入スルナリ、水ノ壓力ニ對スル抵抗ハ何レノ場合ニモ多少現ハル、モノナルガ、殊ニアセル、プラタノイデス(*Acer platanoides*)ニ於テ强キ抵抗ヲ示ス、

水ヲ急激ニ注射スベシ、然ル時ハ小鱗片ヲ以テ被包セラル、芽ノ先端ヨリ細微ナル水條ノ迸出スルヲ見ン、此時注入セラレタル水ニヨリテ鱗片互ニ弛ミテ恰カモ將ニ開發ヲ兆セシヤノ風情アリ、

前述ノ方法ハ極メテ簡單ナルガ猶次ニ記スル注意ヲ要ス、通常注射針ハ芽ノ基部ニ於テ水平方向ニ刺シ込ムモ芽ガ甚ダ細少ナル場合ニハ往々針端ガ反對ノ側ニ貫通スルガ爲メ水ハ芽ノ中ニ注入セラレズシテ外ニ漏出スルコトアリ、之ヲ避ケンニハ針ヲ幾分カ斜ニ上方ニ向ケテ注射スベシ、又屢〻注射ニ當リ管針中ニ植物組織ガ詰塞シテ水ノ射出ヲ妨グルヲ以テ液體ヲ充セル注射器ヲ適用スルニ先立チ預メ注射針ト同ジ太サノ穿刺針ニヨリ芽ニ細孔ヲ穿チ置クヲ可トス。

ク Endomyces 類ニ一致ス

此等ノ蟲食菌ヲ人工培養スルニ當リ種々ノ細菌釀母菌、其他ノ菌類ガ發生シ殊ニ木材ニ廣ク分布スル *Ceratostomella* 類ガ多クノ場合ニ不純物トシテ發生ス（ネーゲル氏ハ最初誤テ此セラトストメラ菌ヲ蟲食菌ナリト報告シタリ）以上重モニ F. W. Neger; Ambrosiapilze (Ber. d. Deutsch. Bot. Gesellsch. Bd XXVI a. Bd XXVII. Bd XXVIII. Bd XXIX.) u. F. W. Neger; Die Pilzkultur der Nutzholzborkenkäfer (Centralbl. f. Bak. u. Parasit. Zweite Abt. Bd. XX) ニヨル

○樹木ノ休眠期短縮法ニ就キテ

遠藤保太郎

昨年冬フリードリヒ、ウェーベル氏ハウェン大學植物生理學教室ニ於テ表題ノ如キ實驗即チ芽ヲ穿傷シ又ハ之ニ水ヲ注射シテ發芽ヲ催進セシムル法ヲ發案シ數多ノ實驗ヲ行ヒ植物學竝ビニ園藝學上多大ノ興味アル結果ヲ得之ヲ學界ニ報告セラレタリ、（Weber, F., Über die Abkürzung der Ruheperiode der Holzgewächse durch Verletzung der Knospen, beziehungsweise Jenjektion derselben mit Wasser (Verletzungsmethode). Sitz. Ber. der Wienen Akad., 1. Abt., Bd. CXX. (1911.)）然レドモウェーベル氏自身モ言ハル、ガ如ク此穿傷法ハ未ダ完璧ト稱スルヲ得ズ促開ヲ誘導スベキ注射物質ノ撰定及ビ其適用ニ關シテハ尚後日ノ研鑽ニ俟タザルベカラザルナリ、今其論文ノ要旨ヲ抄譯シテ參考ニ資セントス。

古來園藝家ノ實施セル所竝ビニ最近植物學上ノ實驗ハ植物ノ休眠期ヲ人爲的ニ左右シ得ル事ニ就テ漸ク世人ノ注意ヲ喚起セル處ナルガ從來ハ只寒氣及ビ乾燥ガ植物ノ萠芽ニ少カラズ影響ヲ及ボスモノト推察セラレ、ホーワルド氏ノ如キハ是ニ關シテ科學的攻究ヲ積ミ其結果ヲ纏メテ、一九〇六年「植物ノ冬期休眠期ニ就テノ研究」ト題シテ公表セリ、亞デ、一九一〇年ヨハンセン氏ハ「エーテル」法ヲ案出シテ益々此問題ニ興味ヲ添ヘ、殊ニ、晩近モーリッシ氏ガ彼ノ温浴法ニ於テ頗ル有效ニシテ而モ理想的ニ簡單ナル方法ニ成功シ現今已ニ實地應用ノ盛運ニ向ヒツヽアリ然レドモ飜テカノ花戸ガ傳來ノ方法ニ依リ草木ヲ冷害ニ貯藏シテ萠芽ヲ阻止シ置キ四季何時ニテモ隨意ニ花ヲ咲カセ葉ヲ發セシメ、以テ衆覽ニ供シ、驚嘆賞讃ノ辭ヲ受ケツヽアルヲ見ルニツケ吾人ハ植物學上是等休眠期ニ關スル疑問ノ未ダ完全ニ解決セラレザルヲ遺憾トスル所ナリ。

近年ニ至ル迄樹木ノ休眠期ハ所謂木ノ成熟狀態（Reifezustand des Holzes）ト密接ナル關係ヲ有スルモノト考察セラレ居リシガ其後ノ研究ニ依レバ此影響ハ餘リ高ク見積ラレ居リシノ觀ナキニ非ズ、何トナレバヨハンセン氏

第ニ灰青色トナリ途ニ灰黑色トナル

(b) Ambrosia 卽チ球狀ノ細胞ノ竝列ヨリ成ル菌絲(球狀ノ細胞ハ配糖體ニ富ム)。

Ambrosia ノ形成セラルヽハ培養基ニヨルガ如シ麵麭「ゲラチン」培養基、馬鈴薯等ノ如キ多量ノ養分ニ富メル者ニ培養スルニ最初ハ絲狀ノ菌絲ノミヲ生ズレドモ菌絲ガ一定ノ太サニ達スレバ少シ褐色ヲ帶ビテ Ambrosia ヲ生ズ「クノップ」液ニ浸セル木材ノ上ニ培養スルニ白色ノ乾酪樣ノ Ambrosia ヲ生ズ菩提樹樫等最モ適ス殊ニ樫ノ液材ハ「クノップ」液ニ浸サヾルモ珠數狀菌絲ヲ生ズ(心材ハ其儘ニテハ絲狀ノ菌絲ノミヲ生ズ養分ノ缺乏ニヨルナラン)針葉樹ノ材ニハク多ハ絲狀ノ菌絲ノミ繁茂シ稀ニ Ambrosia ヲ生ズ

Xyloterus lineatus ノ蟲食菌ヲ人工培養シタルニ多クノ點ニ於テ *X. dispar.* ノ者ト一致シ只其色ニ僅カノ差アルノミ故ニ此二種ノ蟲食菌ハ全ク同一ノ種ナナルカ又ハ極メテ近キ種ナラン

斯ノ如ク兩種トモ生殖體ヲ生ゼザルニヨリ分類學上ノ位置ヲ確定スルコト能ハザレドモ形態發育ノ方法及ビ強キ果實「エステル」ノ香ヲ放ツコトヨリ推定スレバ多分 *Endomyces* 屬ニ屬スルモノナラン

果實「エステル」ヲ生ズル菌類ニシテ蟲食菌ニ似タル形態ヲ有スル者ハ *Saclsia succolus*, *Monilia* 類及ビ *Endomyces* 類ナリ而シテ *Saclsia* ヲ「ゲラチン」基ニ培養スルニ光輝アル白色ノ菌絲ヲ生ジ蟲食菌ヲ「ゲラチン」ニ培養スレバ其菌絲ハ直ニ黑色トナル又 *Monilia* ハ液狀培養基上ニ芽生菌絲ヲ生ズル事ヲ其ノ特徵トスルニ蟲食菌ハ液狀培養基上ニハ絲狀ノ菌絲ノミヲ生ジ決シテ芽生菌絲狀ノ Ambrosia ヲ發生セズ

Endomyces ハ天然ニ木材上ニ發生シ其果實「エステル」ヲ生ズル事、其形態發育ノ方法色彩等全ク蟲食菌ト一致ス蟲食菌ガ何故ニ生殖體ヲ作ラザルカハ不明ナレドモ培養植物ニ種子ヲ形成スル能力ヲ失ヒシ者アルガ如ク此菌モ長年月ノ間甲蟲ニ培養セラレ胞子ヲ造ル能力ヲ失ヒシナラン

(附屬) *Hylecoetus dermestoides* ノ蟲食菌

長蠹蟲科(*Bostrychidae*)ニ屬セザル *Lymexylonidae* ニ屬スル *H. dermestoides* モ亦木材ニ孔ヲ穿チ其穿孔ニ菌類ヲ培養ス此菌絲ハ其ノ先端ニ球狀ノ厚膜ニ圍マレタル胞子ノ如キモノヲ附着ス此ヲ人工培養スルニ發芽セズコノ菌ヲ密生スル木片ヲ人工培養基上ニ移セバ菌絲容易ニ繁茂ス此ヲ葡萄糖養液ニ培養シ充分ニ養分ヲ攝取セシメ然ル後馬鈴薯培養基ノ如キ此菌ノ發育ニ餘リ適セザル培養基ノ上ニ移セバ蝕孔內ニ見ラルヽガ如キ厚膜ヲ供ヘ配糖體ニ富メル光輝アル球狀ノ胞子ヲ作ル此ヲ培養スルモ發芽セズ此菌モ亦強キ果實「エステル」ノ香ヲ放チ其他ノ狀態ヨ

長ニシテ彎曲屈折シタル入孔管ニヨリテ外界ニ通ジ恰モ「パストール」氏壺ノ如キ構造ヲ有シ以テ不純物ノ侵入ヲ防グ

既ニ千八百九十七年ニフッバアルド氏（Hubbard）氏ガ云ヒタル如ク蟲食菌ノ種類ハ此ヲ培養スル甲蟲ニヨリテ一定シ樹木ノ如何ニ關セズ *Xyleborus dispar* ノ蟲食菌ハ如何ナル樹木ニ見出サルヽモ皆モニリア菌ニ似タル珠數狀ノ菌絲ヨリナリ *Xyleborus Saxeseni* ノ蟲食菌ハ常ニ有柄球狀ノ菌絲ヨリナル林檎ノ同一ノ幹ノシカモ接近セル所ニ *X. dispar* ト *X. Saxeseni* トガ接息シタル者ヲ檢スルニ各自ノ蝕孔ニ特異ノ蟲食菌ヲ密生セリ

蟲食菌ハ只蝕孔ノ周圍ニノミ存シ其他ノ部分ニハ存在セズ

蟲食菌ノ菌絲ハ蝕孔ノ周圍數粍ノ木材中ニ分布スルノミニテ其他ノ所ニハ侵入セズ

斯ノ如ク蟲食菌ハ此ヲ養フ甲蟲ト密接ニ相關聯スルヨリ見レバ此菌ノ蝕孔內ニ潛入スル事モ亦甲蟲ノ作用ニヨルナランモ未ダ直接ノ證跡ヲ得ズ

養菌穿孔甲蟲ノ飛翔シ居ル母蟲ヲ捕ヘ培養基上ニ保存シタルニ蟲食菌ハ少シモ發生セズ却ツテ他ノ菌類ノミ繁茂セリ而シテ蝕孔內ニ於テモ人工培養セラレタルモノニ於テモ此珠數狀ノ菌絲以外ニ未ダ一回モ生殖體ノ如キモノヲ見タルモノナシ故ニ直接此 Ambrosia ノ菌絲ガ甲蟲ノ體內ニ入リ込ミ產卵ノ際ニ卵ト共ニ新シキ所ニ移サレ此處ニ繁茂スルモノナルガ如シ然レドモ此菌絲ヲ取離シテ人工培養スルニ其發育非常ニ困難ニシテ多クノ場合ニハ全ク發育ヲナサズ殊ニ球狀ノ細胞ヲ個々ニ分離シタルモノハ殆ド皆褐色ニナリテ死滅ス甲蟲ガ如何ニシテコレヲ發芽セシムルカハ全ク不明ニ屬ス

(三) Ambrosia ハ生殖體ナリヤ

Ambrosia ノ細胞ハ球狀ニテ個々ニ分離シ易ク光輝アリテ原形質ニ富ミ恰モ分生子ノ如キ觀ヲ呈スレドモ前述ノ如ク人工培養基上ニ發芽シ難キヨリ見レバ生殖體ニアラザルベシ又甲蟲ノ存在セザル蝕孔ニハ普通ノ菌絲狀ヲ呈スルヨリ見レバ昆蟲ノ影響ニヨリテ生ズル菌絲ノ變態ナルベシ、ハルチッヒ氏（Th. Hartig）ハ千八百四十四年 *Xyleborus dispar* ノ Amlrosia ヲ *Monilia Candida* ノ芽生菌絲ナリト云ヒフッバルド氏モ亦千八百九十七年コレヲ生殖體トナセリ

(四) 分類學上ノ位置

Xyleborus dispar ノ蟲食菌ヲ密生シタル木材ノ一部ヲ種種ノ培養基ニ移シタルニ次ニ示メス如キ强キ果實「エステル」ノ香ヲ放ツ二種ノ菌類ヲ增殖シタリ此ヲ種々異ナル狀態ノ下ニ數年間培養スルモ未ダ生殖體ヲ生ゼズ

(a) 絲狀ノ菌絲、種々ノ培養基上ニ生ジ最初白色ニシテ次

ヲ示メス

極メテ若キ蟲癭内ノ菌絲ハ未ダ珠數狀ノ部分ナク全部細長ニシテ幾多ニ分岐シ且ツ少シモ隔壁ナク恰モ單細胞ヨリナルガ如シコノ一部分ニ其ノ形、大サ等丁度マクロフォマノ胞子ニ相當スル部分丈ガ不完全ノ隔壁ニヨリテ他ノ部分ト界セラレコノ菌絲ガ胞子ヨリ發芽セルモノナルガ如キ狀態ヲ示メス

(七)癭蟲ハ如何ニシテ胞子ヲ蟲癭内ニ運ビ入ルヽカコノ問題ハ癭蟲ノ培養困難ニシテ蟲癭ノ外ニ脫出スル際ヲ檢スルヲ得ザルコトヽ雌蟲ガ雄蟲ニ比シテ非常ニ少ナキコトヽニヨリ未ダ解決スルコトヲ得ザレトモ蟲食菌ノ子柄器形成期ガ癭蟲ノ脫出期トホヾ一致スルヨリ見レバ癭蟲ガ成蟲トナリテ脫出スル際ソノ產卵管ヲ子柄器内ニ挿入シテコレニソノ胞子ヲ附着セシメ卵子ト共ニ植物ノ組織ノ中ニ運ビ入ルヽモノナラン

(B)穿孔甲蟲類ノ蟲食菌

中歐ニ產スル養菌穿孔甲蟲類ノ重ナル者ハ *Xyleborus* 及ビ *Xyloterus* 屬ノ數種ニ過ギザレドモ南歐ニハ其種類多ク熱帶地方ニ至レバ非常ニ其ノ種類ニ富ム

(一)菌類培養ノ目的

木材ノ如キ養分ニ乏シキ者ノ中ニ棲息シコレヨリ養分ヲ攝收スル昆蟲ニハ充分ナル營養ヲ得ル爲ニ樹蜂類ノ如ク非常ニ多量ノ材料ヲ嚙食スルモノト長蠹蟲類（穿孔甲蟲類）ノ如ク菌類ヲ培養シ其菌絲ニヨリテ木材中ノ養分ヲ自己ノ周圍ニ集メコレヲ食餌トスルモノトアリ此菌類ハ前ニ述ベシ如ク其菌絲膨大シ營養分ニ富ミ古ヨリ Ambrosia ト呼バレタルモノナリ

長蠹蟲科ニ屬スル甲蟲ナルモ果實種子等ノ如キ養分多キ部分ニ穿孔スル者ハ菌類ヲ培養セズ熱帶地方ノ珈琲柿等ノ果實ニ穿孔スル *Stephanoderes Coffeae* ノ如キ其一例ナリ故ニ甲蟲ノ菌類培養ハ養分攝收ノ爲ニ外界ニ適應シタルモノナルコトヲ知ルベシ

(二)培養ノ方法

凡ノ菌類ヲ培養スル昆蟲ハ其菌類ヲ純粹ニ培養セン事ヲ力ム、穿孔甲蟲類ハ培養基ニ不純物ノ入ル事ヲ防グ爲ニ木材ノ成可ク新鮮ナル部分ヲ求メ決シテ腐朽シタル部分ニ孔ヲ穿タズ新シキ蝕孔ノ蟲食菌ハ殆純粹ナリ

此菌類ハ他ノ木材ニ寄生スル菌類ト同ジク其生育ニ一定ノ空氣ノ供給ヲ要ス人工培養ニテ實驗スルニ空氣ノ供給充分ナル部分丈ヨク發育ス故ニ甲蟲類ハ此要求ヲ滿ス爲ニ穿孔スル際ニ生ズル材末ヲ悉ク尾部ニアル橈狀ノ刺ニヨリ孔外ニ除去シ通風ヲヨクス（木材ニ穿孔スル昆蟲ナルモ樹蜂ノ如ク菌類ヲ培養セザルモノニハ材末ニヨリテ穿孔ノ口ヲ密閉スルモノアリ）

然レドモ此爲ニ又他ノ菌類細菌類等ノ侵入ヲ容易ナラシムルニヨリ蟲食菌ヲ密生スル蝕孔ハ直ニ外界ト通ゼズ細

モ多分蟲癭内ニ存セシモノナラン

Verbascum 及 *Scrophularia* ノ蟲食菌モ亦マクロフォマ屬ノモノナルコトヲ知リタレドモ未ダ前ノモノト同一ノ種ナリヤ否ヤハ判然セズ

此菌類ハアル適當ノ時期ニノミ培養基上ニ發育ス餘リ若キモノモ古クシテモハヤ黑色ニナリシモノモ發育セズ又アル培養基ニハ殆ド發育セズ葡萄糖「グラチン」培養基上ニ最モヨク增殖シ麵麭、消毒セル莖等ニハ直接ニ移スモ殆ド發育セズ「グラチン」培養基上ニ繁茂セシモノヲ移シタルモノノミヨク增殖ス是ネーゲル氏以前ニバッカリニ氏等ガ皆人工培養ニ失敗シテ其ノ種類ヲ決定シ得ザリシ所以ナリ

Sarcoplanus ノ果實癭ヲ有スル枝ヲ清水中ニヒタシ硝子鐘ニテ覆ヒ毎日水ヲ取換ヘ菌絲ノ細胞ノ膨壓ヲマサシメコレヲ葡萄糖「グラチン」培養基ノ上ニ移スニ殆ド失敗スルコトナクヨク發育セリ。

(五)生殖體ノ形成ニツキテ

前ニ述ベシ如ク蟲癭内ニ癭蟲ノ尚ホ存スル間ハ殆ンド子柄器ノ形成ヲ見ズ癭蟲ガ去リタル後ニ初メテ多クノ子柄器形成セラル故ニ癭蟲ガ子柄器ノ形成ヲ妨グルガ如ク見ユレドモ然ラザルコトハ次ノ實驗ニヨリ知ルコトヲ得ベシ

(a) *Sarcoplanus* ノ芽蟲癭及ビ果實癭ヲ外部ヨリ壓迫シ癭蟲ヲ殺シ數週ノ後コレヲ檢スルニ多クハ癭壁ノ組織死シ菌類モ亦タ死滅シゴク小數ノモノハ癭蟲死シ菌絲丈ケ生存シタレドモコノ菌絲ハ特別ニ子柄器ヲ形成スル傾向多カラズ

(b)寄生蜂ニヨリテ蟲癭内ニ於テ癭蟲ノ死スル場合多シ此場合ニモ蟲食菌ノ子柄器ヲ形成スル傾向ハマサズ

(六)蟲食菌ハ如何ニシテ蟲癭内ニ入ルカ

蟲癭ノ外部ニ存スル菌類ノ菌絲ガ癭壁ノ組織ヲ通ジテ内部ニ侵入シタルモノニアラザルコトハ若キ蟲癭ニハ癭壁ト内部ノ蟲食菌トハ少シモ結合ナク容易ニ完全ニ分離シ得ルコトニヨリテ明カナリ又外部ニ存スル菌類ガ癭蟲ノ產卵ノ際ノ如キ場合ニ偶然入リコミシモノトスレバ何故ニ數百ノ蟲癭ヲ檢スルモ殆ンド除外例ナク同一種ノ菌類ガ存スルカヲ說明スルヲ得ズ故ニ只一ツノ出來得ベキ方法ハ癭蟲ニヨリテ蟲癭内ニ運ビ入レラルルコトナリ、コレニ又二ツノ場合ヲ想像スルヲ得(一)菌絲ノ形ニテ古キ蟲癭ヨリ新シキ蟲癭内ニ移サル、コト(二)胞子ヲ運ビ入レラルルコトコレナリ而シテ極メテ若キ蟲癭ヲ檢スルニ毫モ古キ蟲癭内ニ見ルガ如キ黑色ノ菌絲存在セズ悉ク白色ノ菌絲ヨリナルサレバ未ダ直接確固タル證跡ハ存セザレドモ蟲食菌ハ癭蟲ノ產卵ノ際卵子ト共ニ其ノ胞子ガ蟲癭内ニ運ビ入レラレコルニ發育シタルモノナルベシ尚ホ次ノ事實モ亦コノ想像ノ眞ニ近キコト

瘻ヲ濕潤セル砂上ニ置キシニ一二週間ノ後ニ蟲瘻ノ外面ニ多クハマクロフォマノ子柄器ヲ生ゼリ

(c) 尚木ニ殘レル瘻蟲ノ脫ケ出シ蟲瘻ハ殆ド皆ソノ外面ニ多クノマクロフォマノ子柄器ヲ有スレドモ其ノ他ノ部分ニハ殆ド見ルコトヲ得ズ

(d) 蟲瘻ノ外面ニ存スルマクロフォマノ子柄器ヨリ胞子ヲトリテ人工培養スルニ蟲食菌ト同ジク初メ白色ニテ次第ニ黑色ニ變ズル菌絲ヲ生ズ

(e) 蟲瘻ガ若クシテ尚綠色ヲ呈スルモノニハ殆ドマクロフォマノ子柄器存セザレドモ稀ニハソノ蟲瘻ノ內面ニ子柄器ノ存スルコトアリカクノ如キ場合ニハ子柄器ヲ生ゼル菌絲ト蟲食菌ノ菌絲トノ間ニハ判然タル區別ナシ

(f) 蟲食菌ヲ純粹培養シテ得タル菌絲ヨリ生ゼル子柄器、胞子ハ蟲瘻ノ組織ニ生ズルモノト全ク一致ス

故ニコノ蟲食菌ハ一定ノ菌類ニテ *Macrophoma* 屬ノ一種ナリネーゲル氏ハ *Macrophoma Coronillae Emeri* NEGER ト名ヅケタリ

Scytothamnus ノ芽蟲瘻及果實蟲瘻ニ於テモ前ト同樣ノ事實ヲ觀察セリ其ノ他コレ等ノ蟲瘻ノ外面ニ生ジタルマクロフォマノ胞子及蟲瘻內ノ蟲食菌ノ菌絲ヲ消毒セル *Scytothamnus* ノ莖ノ上ニ培養セシニ共ニ珠數狀ノ菌絲ヲ生ジ、又果實瘻ノ外面ニ生ズルマクロフォマノ子柄器ガ明ニ蟲瘻內ノ蟲食菌ト菌絲ニヨリ連續スルコトヲ見タリ

而シテコレ等三種ノ蟲食菌ヲ比較スルニ

(α) ソノ生活ノ狀態、生育ノ方法、色彩等全ク一致ス

(β) 消毒セシ莖ノ上ニ培養スルニ何レモ皆煙草ノ葉ヲ乾燥セル後ヤヽ醱酵シカヽリシトキ生ズル臭ニヨク似タル臭ヲ放ツ

(γ) 子柄器及分生子ハ形、色、大サ等類似シ其間ニ判然タル區別無シ

故ニ此等三種ノ荳科植物ノ蟲瘻ノ蟲食菌ハ皆同一種ニテ *Macrophoma Coronillae Emeri* NEGER ナリ(キーフエル氏ノ研究ニヨレバコノ三種ノ瘻蟲モ亦同一ノ種ナリト云フ)フオン、(ヘーネル氏ハ *Macrophoma Coronillae Emeri* ナルモノハ *Sphaeria Coronillae* DESM. ト同一ノモノナリト云ヘリ

(*Macrophoma, Coronillae* (DESM.) NEGER ノ記載ノ大體

子柄器ハ蟲瘻ノ外部ニ生ズル場合ニハ直徑一二〇μ乃至一六〇μアリ蟲瘻ノ內部ニ生ズル場合ニハ遙カニ大ナリ子柄器ガ熟スレバ長キ卷鬚狀ニ卷ケル胞子列ヲ外ニ出ス胞子ハ普通紡錘狀ニテ長サ一三—四五μ幅五—一二μ色ハ無色、稀ニ灰色又ハ褐色ヲ帶ブ)

純粹培養ノ際ニ *Macrophoma* 以外ニ *Coniothyrium, Botrytis (Cinera* 及種々ノ釀母菌類等ノ發生スルコトアリコレ等ハ培養ノ際ニ外部ヨリ入リシモノナリヤ又ハ蟲瘻內ニ既ニ不純物トシテ存セシモノナリヤハ判然セザレド

是等ノ何レノ蟲癭ニ於テモソノ數百ヲ檢スルニ殆ド除外例ナク癭壁ノ內面ニ珠數狀ノ菌絲ヲ密生シ其ノ內壁ヲ全ク覆ヒ癭蟲ガ癭壁ト直接ニ接觸スルコトヲ得ザルニ至ラシム、故ニ癭蟲ガ養分ヲ得ルニハ必ズコノ菌類ニヨラザルベカラズ而シテカクノ如キ狀態ニ於テ完全ニ幼蟲ヨリ成蟲ニ發育スルヲ見レバコノ菌類ハ癭蟲ニ對シテ無害ナルノミナラズ營養トナリ得ルコト明ナリ然レドモコノ菌類ガ癭蟲ノ生活ニ絕對ニ必要ナルカ又ハ癭壁內部ノ柔カキ組織ニテモコノ代用ヲナシ得ルヤ否ヤハ未ダ判然セズ（*Coronillae Emerus* ノ蟲癭ニ於テ菌絲ノ少ナキモノニハ癭蟲ノ發育惡シキヲ見タレドモ時ニハ又菌絲ガ非常ニ盛ニ發生セシタメニ却テ癭蟲ガ窒息セルヲ見タリ又 *Lathyrus hamus* ノ果實癭ニ於テ菌絲ガ少ナキニカヽハラズ癭蟲ノ完全ニ發育シタルモノヲ見タリ）

次ノ事實モ亦コノ菌類ガ癭蟲ノ營養物ナル事ヲ示メス

コノ菌絲ハ癭蟲ガ蟲癭內ニ存シ尙ホ幼蟲ノ狀態ニテ周圍ヨリ養分ヲ仰ガザルベカラザル間ハ原形質ニ富メル膨大セル球狀ノ細胞ヨリナリ白色ヲ呈スレドモ幼蟲期ノ最後ニ近ヅキコトニ變態期ニ到レバ球狀ノ細胞ハ痩セ細リ黑色ヲ帶ビ癭蟲ガ成蟲トナレバ菌絲ハ全部黑色トナル、

(二)球狀ノ細胞ハ生殖體ナリヤ

前述ノ珠數狀ヲ呈セル細胞ハ原形質ニ富ミ且ツ容易ニ個個ニ分離シ恰モ分生子ノ如キ觀ヲ呈スレドモソノ一個ヲ取リ離シゲラチン培養基ニ移スモ一回モ發育セズ皆褐色ニ變ジ死滅セリ全體ノ菌被（Pilzhülle）ヲ「ゲラチン」、麵麭等ニ移スニヨク繁茂セリ故ニ球狀ノ細胞ハ生殖體ニアラザルコト明ナリ

(三)コノ菌類ノ養分吸收ノ方法

バルガッリペトルッチー氏（Bargagli-Petrucci）ハ *Verbascum* ノ蟲癭ニ於テハ癭壁ノ細胞間隙ヲ走ル菌絲アリテコレガ癭壁ノ組織ヨリ養分ヲ吸收スト云ヘリ、ネーゲル氏ニヨレバ普通尙綠色ヲ呈スル蟲癭ニハ細胞間隙菌絲ハ存在セズ菌絲ノ癭壁ニ近キ部分ハ柱狀ヲナシ互ニ密接シテ竝列シ柵狀柔組織ニ似タル層ヲツクリ其ノ外面ニテ癭壁ノ內面ニ密着シ（コノ內面ニ珠數狀菌絲アリ）ソノ組織ヨリ養分ヲ吸收ス（ネーゲル氏ハコノ層ヲ吸收層ト名ヅケタリ）成蟲ガ蟲癭外ニ出デヽ後初メテ細胞間隙ニ菌絲ガ侵入シ遂ニハ細胞內ニモ侵入ス

(四)蟲癭ノ蟲食菌ハ一定ノ菌類ナリヤ否ヤ

Coronillae Emerus ノ蟲食菌ニツキテノ研究

(a)蟲食菌ヲ蟲癭中ヨリトリ出シ種々ノ培養基（「ゲラチン」、麵麭、消毒セル *Emerus* ノ莖等）ニウツシ培養ノ成功セル場合ニハ殆ド皆初メ白色ニテ次第ニ黑色ニ變ズル菌絲ヲ增殖シ皆同一ノ胞子ヲ有スル子柄器ヲ生ズコノ生殖體ヨリ檢スルニ *Macrophoma* 屬ニ屬スルモノナリ

(b)癭蟲ノ將ニ外ニ出デントスルモノ又ハ旣ニ脫出セル蟲

カク互ニ相類似セルニヨリネーゲル(Nägeli)氏ハ培養蟲ノ影響ニヨリテ生ゼラルヽ菌類ノカクノ如キ特殊ノ形態ヲ廣ク *Ambrosia* ト呼ビ昆蟲ニ培養セラレソノ食餌トナル菌類ヲ凡テ蟲食菌(*Ambrosiapilze*)ト呼ベリ

蟲食菌相互ノ間ニハ少シモ分類學上ノ關係ナシ白蟻、蟻等ノ蟲食菌ハ菌蕈科ニ屬シ蟲癭内ノモノハネーゲル氏ノ研究セルモノハ不完全菌類ノマクロフォマ屬ノモノナリ穿孔甲蟲類ノモノハ未ダ決定セラレザレドモネーゲル氏ノ研究セルモノハ多分原子嚢菌類ノエンドミセス屬ノモノナラント云フ、次ニ蟲癭内ノ蟲食菌及穿孔甲蟲類ノ蟲食菌ニ關スルネーゲル氏ノ研究ノ大略ヲ述ベン

(A)蟲癭内ノ蟲食菌

今日迄ニ知ラレタル蟲食菌ヲ有スル蟲癭ハ皆 *Asplondylia* 屬ニヨリテ生ゼラルヽモノナリ重ナルモノヲ擧グレバ左ノ如シ

癭蟲	植物	變形部分
一、*A. Capparis* Rübsamen.	*Capparis spinosa.*	花芽
二、*A. Prunorum* Wachtl.	*Prunus* 屬ノ數種	芽
三、*A. Verbasci* (Walliot) Schiner.	*Verbascum* 屬ノ數種	花芽
四、*A. Scrophulariae* Schiner.	*Scrophularia cauina*	花芽
五、*A. Cornillae* Fr. Löw.	*Cornillae Ewerns*	芽
六、*A. tubicola.* Rübs. (?)	*Sarothamnus scoparius*	芽
七、*A. Mayeri.* Liebel	*Sarothamnus scoparius*	果實

其ノ他 *Cecidia, Cystis, Lutus* 等ノ蟲癭ニモ蟲食菌ヲ有スルモノアリ然レドモ *Asphondylia* 屬ノ作ル蟲癭ガ皆蟲食菌ヲ有スルニアラズ *A. Umbellatarum* ニヨリ生ゼシメラルヽ繖形科植物ノ果實癭ノ如キハ少シモ菌類ヲ有セズバッカリニ氏(Baccarini)ガ初メテ(*Capparis spinosa* ノ花芽類ニ於テカクノ如キ蟲癭ヲ見出シ蟲菌癭(Zoomycocecidien)ト名ヅケタリネーゲル氏ハコレヲ蟲食菌癭(Ambrosiagallen)ト呼ビロッス氏(Ross)ハ有菌蟲癭(Verpilzte Gallen)ト呼ベリネーゲル氏ハ前表ノ三ヨリ七ニ至ル五種ノ蟲癭ニツキテ研究シ殊ニ最後ノ三種ニツキテ詳シク研究シ次ノ如キ結果ヲ得タリ

(一)菌類ハ癭蟲ノ營養物ナリヤ將タ有害物ナリヤ

昆布半帖ナル文字ヲ見シ以來今日ニ至ルマデ忘ルゝコトナシ又ヲコソヲ稱シテ昆布ト呼ベドモ本草綱目ニ謂ヘル昆布ハ決シテ本邦ニテ今日昆布ト呼ベルモノ卽チ淸國ニ於テ今日海帶ト名クルモノト同一物ニ非ズトハ既ニ拙著海產植物學ニ於テ之レヲ述ベタリ然レドモ陳藏器ノ昆布ノ解說ハ決シテ海帶及ビ海藻ニ就キテハ何事ヲモ知ルヲ得ザリキ

香港ニテハ昆布ノ音通ニ君布ヲ用ウ葦布ナル文字ニ就キテハ知ルモノニ會セズ又試ミニ某海味洋行ニ就キテ裙帶菜トハ何ゾト問ヘルニ直チニ應ジテ是レ海帶也ト答ヘタリ此文字ハ往々本邦ニテわかめニ充テラルヽモコハ蘭山ニ由來スル誤リナリ

概言スルニ海藻ニ關シテハ本草綱目以下漢書ニ記載セル諸植物ノ名稱ハ南淸地方ニ比較的多ク襲用セラレ居リテ中淸地方ニ於テハ著シク相違セルガ如シ又南淸地方ト雖ドモ古書ニ記載セル名稱ノ今日既ニ變遷セルモノ少ナシトセズ一淸人ハ余ガ頻リニ古書ノ名ヲ羅列シテ質議スルヲ見テ古書漫リニ倚ルベカラズトナシ本草綱目中ヨリ其一例ヲ引キタリ曰ク綱目ニテハ防黨ヲ以テ人參ノ一名トナシタルモ現今ハ兩者各其指ス處ヲ殊ニシ防黨ハ南淸ニモ產スレドモ人參ハ爾ラザルコト大人知ル處ノ如シト此樣ナルハ淸國人間ニ於テ稀ニ出會スル學者ナリキ

○蟲食菌（Ambrosiapilze）

眞保一輔

千八百三十六年ニシミドベルゲル（Schmiedberger）氏ハ木材ニ孔ヲ穿ツ甲蟲長蠹蟲類（*Bostrychiden*）ノ蝕孔ノ內面ガ白色ノ粉末狀ノ物質ニ厚ク被ハルヽヲ見コレヲ甲蟲類ノ營養物ト考ヘ Ambrosia（美味ナル食物ノ意）ト呼ベリ、其後ノ研究ニヨレバコノ粉末狀ノ物質ハ種々ノ穿孔甲蟲類ノ穿孔ニ見ラルヽモノニシテ甲蟲類ニヨリテ培養セラレソノ食餌トナル菌類ナリ而シテコノ菌類ノ菌絲ハ細胞球狀ニ膨大シテ相列リ珠數狀ヲ呈シ且ツ個々ニ分離シ易ク爲ニ恰モ粉末ノ如キ觀ヲ呈スルナリ

癭蠅科ニ屬スル *Asphondylia* 屬ノモノニハ植物ニ蟲癭ヲ作リソノ癭壁ノ內面ニ前者トヨク似タル珠數狀ノ菌絲ヲ密生セシメコレヲ營養トスルモノ多シ

白蟻類、葉切蟻及其他ノ蟻類ニモソノ巢ニ特殊ノ菌類ヲ培養シテコレヲ食餌トスルモノアリコノ菌類ノ菌絲ハ先端膨大シテ球頭狀ヲ呈シ前二者ト類似ノ形態ヲナスコレ等ノ何レノ場合ニ於テモ菌絲ノ膨大ハ只昆蟲ノ存在スル場合ニノミ生ジ殊ニ白蟻類ノ培養スル菌類ハ菌蕈科ニ屬スルモノナレドモ昆蟲ノ存在スル間ハ蕈體ヲ生ゼズシテ球頭狀ノ菌絲ノミヲ生ジ菌園ヨリ培養蟲ヲ除ケバ初メテ蕈體ヲ形成ス

セラル、顯花植物ノ標本ニハ可ナリ見ルベキモノ少ナカラザルガ如シト雖ドモ隱花植物殊ニ海藻類ノ標本ニ至リテハ全ク御話ニナラズ種名屬名共ニ誤レルモノ多ク前ノいそもくノ如キハ *Sargassum vostratum* トセラレ居レリ或ハ *Riccia* ヲ藻類ノ部ニ入レテ其名稱ナキアリ甚ダシキハ珊瑚類ナル *Gorgonia* ノ乾燥品ヲスラ藻類中ニ發見ス余ハ約半日ヲ此室内ニ暮ラシ多大ノ興味ヲ以テ其全部ヲ通覽シ一々記錄ヲ取リ厚ク謝シテ辭シタリ但シ遂ニ一言モ『敎ヘテヤラズ』又敢テ『罵倒モセズ』

我等ガ海草ト謂ヘバ海中所生ノ植物ノ總名ナルニ支那ニ於テ少クモ其一地方ニ於テ海草ナル名稱ハ特殊ノ藥用海藻ニ用ヰラルヽハ一見奇ナルニ似テ奇ニアラズ香港地方ニ於テ海草トアルハ卽チ本草綱目ノ海藻ナリ綱目ニ謂ヘル海藻ハ馬尾藻及ビ大葉藻併稱ニテ醫家用之下水トアルモノ是ナリ蘭山モ方書ニ海藻トアルハ凡テ馬尾藻ヲ用ウベシト注意セルハ此消息ヲ詳カニ示セルモノナリ但シ余ハ嘗テ本草綱目ニ馬尾藻トアルハほんだはら類ヲ指スニ非ズト論ジタルニ今香港地方ニ於テ海草ナル名稱ノ下ニほんだはら類ヲ販賣スルヲ見テ前言或ハ誤マレルニ非ズヤト疑ハザリシニ非ザルモ陶弘景又ハ陳藏器ノ言ヲ如何樣ニ解釋スルモ馬尾藻ヲほんだはら類ニ充ツル能ハズ況ンヤ海藻ヲヤ余ハ之レヲ確カメント欲シ澳門ニテ夫ノ扁鵲直傳ノ先生ヲ問ヒ馬尾藻（Mahmitsau）トハ何ゾト問ヘバ下劑ナリト答フ是レ甚ダ面白ロシト思ヒ其草如何ノ狀ヲ爲スヤト尋ヌレバ家ニ在リト謂フヨリ之レヲ見レバ馬鞭草ニ似タル植物ノ乾燥品ナリキ依リテ余ハ之レハ馬鞭草ニ非ズヤ馬尾藻ハ海中所生也陸草ニ非ズ本草綱目之レヲ示スト筆談スレバ先生流石ハ學者ナリ直チニ本草綱目全部ヲ抱ヘ來リシヨリ余ハ直チニ水草ノ部一卷ヲ引キ拔キ海藻條下ノ珍藏器ノ解釋ヲ示セバ如何ニモト云ヒタラン如キ面地シナガラ吾等ハ馬尾藻（Mahmitsau）ト馬鞭草（Mahmetsau）トヲ等シク用ウルナリト語ル丸デ洒落ノ如キ話ナリ扁鵲果シテ斯カル洒落ヲ直傳シタルニヤ甚ダ恠シキノ至リナリ唯ダ本邦ノ小野蘭山ノ言ヘルトコロト香港地方ノ藥種店ノ爲ストコロト全ク相一致セルヲト奇スルノミ尙ホ將來有識者ノ敎ヲ俟ツ

更ニ著シキハ昆布ナル文字ナリ上海ニ於テハ之レヲ知ルヲ得ザリシト雖ドモ本邦ニテ昆布ト云フハ海帶ト稱スルコト前ニ記セリ香港廣東地方ニ於テ昆布ト呼ブハあをさナリ

あをさニ充用スベキ漢名ヲ本草綱目中ニ求ムルニ石蓴アリ紫菜ニ似テ色青シトアル以上ハ疑フベクモアラズ林道春ノ如キハ昆布ト紫菜ト同一物トシ共ニ青苔ニ似タリト謂ヘリ和漢三才圖繪ニハ昆布ヲ以テ紫菜青苔ノ類トナスノ愚ヲ嗤ヘドモ從來本邦ノ本草學者中ニハ果シテ昆布ノ何物ナルヤヲ解セル者ナキニ似タリ本邦ニテハ延喜式ニ

雜錄　○海藻ノ漢名ニ就テ　遠藤

縱ニ束狀ヲナシ全體寒天質ヲ以テ包マレタルナリ其陝西省ノ產ナリト云フハ眞ニ近カシ天津地方ニモ之レヲ產スルニヤ余ハ本邦ニ嘗テ此レニ類スルモノアリシヲ見聞セズ

余ハ拙著海產植物學ニすゐせんじのりノ條下ニ越中ノ葦付苔モ亦タ多分之レト同一ナルベク支那ニテ葛仙菜ト云フモ之レナルベシト記シタリ二者共ニ誤レリ昨年本邦出發前約二週日ニ於テ葦付苔ノ標本ヲ手ニ入レタリシガ其外貌水前寺苔ト酷似スレドモ其種ヲ異ニセルヲ確カメタリ支那ノ葛仙米（葛仙菜ト云フハ誤マレルガ如シ北淸營口附近ニテ葛仙菜ト呼ビテ販賣スト聞知シタレドモ余ガ今回巡遊セル地方ニテハ悉ク米ト謂ヒテ菜ト曰ハズ）ニ至リテハ大ニ水前寺苔ト其趣キヲ異ニシ外見寧ロ臺灣產ノ海雹菜ニ似タリ

葛仙米（Kassiemé, Shanghai; Kassiemai, Canton）ハ湖南省ノ產ナリト謂ヘバ中央支那ニ於ケル食用藍藻類ノ第二例ナリ支那料理ニ於テハ一種ノ贅澤品ニシテ其名稱ノ美ナルヨリシテ誕生日ノ祝宴等ニハ缺クベカラザル御馳走ノ一トセリ或ハ單ニ熱湯ヲ浣ギテ砂糖ヲ和シ或ハ蝦肉ト和シテ油煮トスル等種々ノ料理法アルガ如シ

海雹菜ナル名稱ニ就キテハ上海香港廣東共ニ之レヲ知ルモノニ會セズ思フニ福州邊ニ至ラバ知ル者多カランカ

紫菜（Tsootsay, Shanghai; Cheechoy, Canton）ハあまのりナリ上海ニテハ例ノ如ク徑一尺許リ厚サ三分許リノ圓盤狀塊トシテ販賣セリ本草綱目ニ所謂ユル掖成餠狀トアルヲ面前ニ見ル香港ニ於テハ摘ミ乾シトシテ販賣ス香港ニ於ケルモノハ明カニふたへあまのりニシテ淸國ノ產ニ非ズ依リテ之レヲ問ヘバ桑港ヨリ輸入スト答フ本邦ノ抄製品ハ淸國人間ニハ需要セラレズ恐ラク上等過ギルナラン附記ス香港ノ或洋行ニテハ芷菜ノ文字ヲ用ウルヲ見タリ

勿論音通ナルベシ

靑紫菜（Chingtsootsay, Shanghai）トハ上海ニテあをのりヲ呼ブガ如シ之レヲ確カメント稱シテ百方標本ヲ覓メタレドモ得ズ廣東ニテハ芷菜紫綠ノ二種アリトシあをのりヲモ芷菜ト呼ビ別個ノ名稱ヲ有セズあをのりハ日本ヨリ輸入スト稱ス

海草（Hoitsau）ト稱シテ香港及ビ澳門ノ藥店ニテ販賣セルハほんだはらノ乾燥品ナリ始メ淡水ニテ洗濯シタルラシク極メテ佳ク乾燥シ些ノ鹽氣ヲ帶ビズ長サ一寸五分乃至二寸位宛ニ切斷セラレ某藥店ニ於テ見シモノハ九州產のうみとらのをノ老成株ト認メラレシモ香港植物園內腊葉室內ニ藏セラルヽ「海草」トアルハ明カニいそもくナリ共ニ日本ヨリ輸入セラルヽ旨ヲ示セリ又廣東ノ藥店ニテハ陽江ヨリ來レリトテ鹽拔キセザルひじきノ乾燥品ヲ販賣セリ

序ナレバ香港植物園ノ腊葉室ニ就テ一言スベシ該室ニ藏

地方ニテハ糊料トナスト共ニ食用ニモ供セラルト謂フ
試ニ支那ノ灯器舗ニ就キテ其作リ方ヲ驗スルニ始メ先ヅ圓柱狀、球狀其他任意ノ形ニ龜甲目ニ竹ヲ編ミ之レニ特ニ製シタル粗ラキ絹網ヲ貼ルナリ其粗ラサハ縦絲五厘明キニ二條ヅヽ一分五厘位ヲ距テ之レニ五厘明キ程宛ニ横絲ヲ通ゼルモノニシテ絲ハ本邦ノ坐繰絲ヲ三本程合ハセタル位ノ細サナリ此網ヲ貼ルニハ膠菜ヨリ作リタル比較的薄キ糊ヲ以テシ乾燥シタル後チ刷毛モテ濃厚ナルモノヲ塗ルナリ其濃度ハ糊ガ絲ト絲トノ間ニ渡リテ薄膜ヲ張ルニ至ラシム斯クシテ乾燥スレバ提灯ハ恰モ半透明ナル玻璃狀ノ薄ニテ張ラレタルガ如キ觀ヲ呈ス之レニ彩色ヲ施コスナリ余ハ支那ニ入ルト直チニ家々ニ懸レル提灯ノ破レタルガ多キヲ見テ何故ニ支那ノ提灯ハ破レ易キコト斯クノ如クナルヤヲ惟シミシガ今眼前ニ製作ノ順序ヲ見且ツ其實物ヲ手ニ取リテ始メテ其理由ヲ明カニセリ換言スレバ支那ノ提燈ハ薄キ寒天紙ニテ貼ルニ他ナラザルナリ

海蘊ノ文字ハ本邦ニテハもづくニ充テラレタリ適々吳菘港ノ地圖ヲ閲スルニ細長ナル入江ヲ海蘊浜(Haiwonping)ト號セルヲ見テ其地形如何ニモおごのり又ハもづくノ生ジソウナルヨリシテ海蘊ト同ジカルベシト想像シ此文字ニ就キテ知ル者ナキヤヲ尋ネタルモ終ニ解スル能ハズ石髪ナル文字ハおごのり、ゑごのり又ハあをみどろ等ニ訓ゼラレタレドモ香港地方ニ於テ石髪ト稱スルハ同ジク海味洋行ノ扱フトコロナリト雖ドモ疑ヒモナク陸上植物ニシテ地衣類ナルガ如シ髪菜ト謂ヘルハ即チ藻類ノ一種ナリ

髪菜(Jatsoy, Shanghai; Jahchoy, Hongkong)ハ黑色細織ニシテ長サ一寸内外紛糾錯雜シテ如何ニモ婦人ノ梳キ落シタル毛髪ニ似タリ香港ニテハ之レニ發菜又ハ發財ナル文字ヲ音通ニ用キ小賣店等ニハ往々淨發財ノ文字ヲ掲グルヲ見タリ上海ニテハ髪菜ノ一點張ナリ香港廣東邊ニテハ發財ナル名稱ノ緣喜佳キヲ喜ビ祝日ニハ多ク之レヲ用ウ香港海味洋行ハ孰レモ之レヲ天津ヨリ來ルト唱フレドモ上海商人ハ陝西省ノ產ナリト語レリ陝西省トハ中央支那ニシテ海岸ニ非ズ

標本ヲ手ニシテ之レヲ考フルモ從來寡聞ニシテ之レニ似タル藻類アルヲ聞カズ唯ダ僅カニ明治三十九頃横濱ニ開カレタル物產共進會ニ於テ淸國商人ノ出品ニ係ル參考品ノ内ニ髪菜ト記シテ之レニ似タルモノヲ見シヲ記憶スルノミ當時之レヲ得ント欲シ閉會後大學ニ寄贈セラレンコトヲ請ヒ事務員ニ堅ク約束シタルモ甲斐ナカリシヲ憾ミタリキ今其數片ヲ水中ニ投ジテ變化如何ヲ檢スルニ須臾ニシテ膨脹シ元結位ノ大サトナリ兩端ニ向ヒテ漸次細ク色暗褐ヲ帶ビ來ル其狀まつもノ細葉ニ似タリ之レヲ顯微鏡ニ窺フニ Nostocaceae ニ屬スル植物ニシテ數多ノ群體

ニテハ本邦ノまつのりニ類似シタルモノヲ指シ産地ハ海南島ナリト告グ

石花菜（Tsaihoitsay, Tsaihaichoy, Tsaihaichoy, Canton）ハ上海及ビ香港ニテハ我ガ國ノりうきうつのまた及ビ同屬種ノコトナリ石花菜ナル文字ハ從來本邦ニテハてんぐさニ充用セラレタレドモ古來ノ清國文獻ニ見ルニ石花菜ノ解釋ハ一モ我ガてんぐさニ當ラズ支那ニテ石花菜トハりうきうつのまたヲ指ストハ既ニ拙著海產植物學ニ述ベ置キタリ

上海ニテハ石花菜卽チりうきうつのまたヲバ一名其菜（Zeetsay）又ハ烏足菜（Zeechatsay）ト稱シ香港地方ニテハ一名麒麟菜（Kiringchoy.）ト云フ之レト鹿角菜トヲ併セ考フレバ吾人ノ從來抱ケル疑問ハ廓然タルガ如キノ感アリ余ハ拙著ニ於テ琉球國誌略ニ鷄脚菜一名麒麟菜トアルヲりうきうつのまたニ充ツルハ容易ク主肯スベカラズト謂ヒタルモ古本草家ノ爲セルトコロ誤ナカリシヲ見ル唯ダ彼等ハ誌略ニ鷄脚菜麒麟菜俱生海灘上頗相似有黃白二種一名鹿角菜トアルヲ見ナガラ鷄脚菜ヲバとさかのりニ充テ麒麟菜ヲバりうきうつのまたニ充テ更ニ鹿角菜ヲバふのりニ充テタルガ爲メニ誌略ノ記載ヲ索然解スベカラザルモノニ化了シタルナリ上海ニ於テハ麒麟菜ナル名稱ヲ知ルモノニ逢ハザリシモ支那ニテハ音通文字ヲ用ウルノ例多々アルガ故ニ其ハ麒ト見ルベク隨テ其菜トハ麒麟菜ノ略稱ト考フル能ハザルニアラズ烏足菜ニ至リテハ鷄脚菜ト謂フニ似タリ故ニ余ハ玆ニ清國從來ノ文獻ト上海香港地方ニ於テ現時行ハルヽ名稱トヨリシテ我ガりうきうつのまたノ漢名ヲ石花菜一名麒麟菜ナリト斷言スルニ躊躇セザルニ至レリ但シ廣東ニテ或者ノ謂ヘルニハ石花菜ハ麒麟菜ト同物ニアラズ云々然レドモ彼等ハ麒麟菜ハ香港ニテハ販賣スレドモ廣東ニハ之レヲ見ズト云フヨリ判ズレバ彼等ハ果シテ其實物ヲ知リテ斯ク曰ヘルカ疑ハシ又澳門ニテハ廣東ニテ石花菜ト名クルモノ卽チまつのりノ一種トりうきうつのまたトヲ混淆シテ販賣シ之レヲバ單ニ石花菜ト唱ヘ居レリ或澳門人ハ鹿角菜ナルモノハ此他ニ別ニ有リト語リタレドモ如何ナルモノヲ指セルヤ明カニセズ

石花菜ハ清國ニテハ新嘉坡附近及ビ蘭領印度孟加錫（Macassey）ヨリ輸入シ上海ニテハ木邦ヨリ其若干ヲ輸入スト謂ヘリ而カモ奇トスベキハ上海ノ商人ハ之レヲ寒天ノ原料トシテ日本ニ輸出ストモ曰ヘリ

香港ニテハ孟加錫產ヲ最上トシ其細齒ナルモノヲ龍牙海菜（Longah-hoichoy）ト呼ベリ

支那ニテ膠菜ト云フハ本邦ニテ糊料海藻ト謂フニ同ジ此內ふのりハ衣服又ハ織物ニ糊付ケスル爲メニ用キラレ石花菜及ビ鹿角菜（二者ヲ異物トスルコト廣東地方ノ言ニ遵ヘバ）ハ提灯張リニ用キラルりうきうつのまたハ北清

リ藥店ノ老人ハ其ノ由來ヲ單ニ由犀牛膽內而來ト筆談セルノミナレドモ或ル支那人ニ尋ネタルニ此藥ハ奧支那西藏邊ノ山ニ產スルモノニシテ之レヲ得ルニハ山中人ナキ處ニ大甕ヲ數十箇埋メ水ヲ充タシ水面ト地面ト同ジクスル斯クシテ放置スルトキハ犀牛夜ニ至リテ彷徨ス明月ノ夜ニ當レバ彼ハ甕中ノ月ヲ見テ之レヲ食ハント欲スレドモ得ズ憤懣怒ヲ發シ終ニ口ヨリ膽液ヲ流スニ至ル膽液卽チ甕ニ墜ツ斯クノ如キモノ屢ナレバ期年ニシテ液ハ甕底ニ溜マル是レ卽チ犀牛黃ナリト眞面目腐ツテ語ル希臘神話ヲ讀ムノ心地ニシテ興云フベカラズ

紅菜（Hontsay, Shanghai）上海ニテハ日本ヨリ輸入セラルヽトさかのりヲ斯ク唱ヘ例ノ雞冠菜ナドノ文字ハ勿論アルベクモアラズ和訓栞ニハとさかのりヲバ唐山ノ俗、紅菜トモ云フノ條ヲ確メ得テ快謂フベカラズ但シ同書ニ海物異名誌ノ赤菜モ亦タ是レナルベシトアルヲ記憶スルヨリ赤菜ナルモノハ何カト尋ネ廻ルモ一人トシテ答フルモノナシ唯ダ香港ノ海味洋行主ノ一人ハ赤菜トハ郎夢子トハ如何ナル植物ナルカ明カナラザレドモ油只ナリト謂フヨリ考フレバ椿油ノ類カト想像セラレ全ク余ノ質問ト方角ヲ異ニセリ然ルニ赤菜ハ廣東ニ至レバふのりヲ指スコトヽナレリ是ハ蘭山ノ言ヲ證スルニ似タルモ八閩通誌ニハ赤菜ノ大ナルモノヲ麻角菜ト云フトアルヨリ見レバ廣東ニ於ケル赤菜ノ名ハ古意ヲ傳ヘ居ルカ疑ハシ

膠菜（Kaucloy, Hongkong）香港廣東邊ニテハ糊料ニ用ウル海藻ヲバ凡テ膠菜ト稱ス上海ニテ紅菜ト稱セラルヽとさかのりハ香港ニテハ膠菜ノ一種ナリふのりノコトヲモ亦タ膠菜ト謂フ彼等ノ間ニハ膠菜トノミ總稱シテ一々區別名ヲ有セズ產地ニヨリテ日本膠菜トカ金門膠菜トカ別ツノミナリ

ふのりハ福建省金門ト漳州トヨリ香港ニ來ル上海ニテハ終ニ之レヲ見ルヲ得ザリキ香港海味商ニ就キテ所謂金門膠菜ノ見本ヲ一覽スルニ本邦南部諸州ニ產スル *Gloiopeltis furcata* ニ酷似スやなぎふのりニ非ズ漳州產ハ見ルヲ得ザリキ更ニ又余ハ廣東府誌曰猴菜色赤生石上南越謂之鹿角トアルハ如何ト尋ヌルニ猴菜トハ奇妙ナル名ナリト笑フ併シ香港ノ住民ニシテ廣東府誌ニアルヲバ會セザルモ妙ナコトナリト思ヒ居リシニ一人ノ曰フニハ鹿角菜是レ石花菜ノミト

鹿角菜ナル文字ハ嘗テ本草學者ノ間ニ或ハつのまたニ充テラレとさかのりニ充テラレ或ハりうきうつのまたニ充テラレ或ハふのりニ充テラレタルコトアリテ海藻ノ漢名中最モ吾人ヲ苦シムルモノナリ今鹿角是レ石花菜ナリト聞クニ至リテハ空谷ノ跫音ノ感ナクンバ非ザルナリ實際廣東ノ海味洋行ハりうきうつのまたヲバ鹿角菜（Lockchoy）ト稱スルノ他ニ別名ヲ有セズ石花菜ト謂ヘバ廣東

スルニ到底刻昆布ニアラズふともづくノ乾シタルニ似テ而カモ非ナリ依リテ標本室主任 Chief Appraiser, Mr. HADLEY ヲ促ヘテ其ノ何タルヤヲ問ヘバ其貼札ノ通リナリト答フルノミ產地日本トアルハ愈々疑ハシ余ハ日本ニ斯クノ如キモノヽ產出ヲ疑フト難ズレバ標本ハ何分長キガ故ニ眞相ヲ失ヘルヤモ知レズ云々其一片ヲ摘出シテ之レヲ貰ツテ歸ルモ可ナリヤト謂ヘバ大ニ可ナリト答フ茲ニ於テ之レヲ宿ニ致シ水中ニ浸シ顯微鏡下ニ檢スレバ驚クベシ確カニ腹足類ノ卵纔ナリ殊ニあめふらしノ卵纔ニ酷似ス唯ダ其ノ色黃色ナラズシテ暗綠色ナルノ差アルノミ卽チ上海稅關ニテハ動物ヲバ植物トシテ取扱ヒ居ルヲ發見シタリ但シ此事ハ終ニ彼等ニ『敎ヘテヤラズ』

其ノ後チ海味洋行ニ至リテ海粉ノ由來ヲ問フニ其ノ厦門ヨリ來ルヲ明カニシ且ツ厦門以外ヨリ輸入セラレザルヲ確カメタリ然レドモ其ノ卵纔ナルニ至リテハ洋行ニ於テ解セザルモノヽ如シ

余ハ本草綱目カ或ハ何カニ於テ此事ニ關シテ讀ミタルコトアリシヲ記憶ス

序デナレバまくりニ就キテ一言スベシ日本ニテハまくりノ漢名トシテ鷓鴣菜ト書シ俗ニ海仁草又ハ海人草ト書セリ上海稅關ニ於テまくりノ標本ヲ調製セルハ千八百九十年頃ナリシヨリ見レバ既ニ二十餘年ヲ距ツルモ其ノ產地日本トアルヨリ考ヘテ確カニ一度ハ輸入アリシニ相違ナケレバ此植物ニ關シテ百方海味洋行及ビ藥店ヲ探ルモ眞相ヲ捕ヘ得ズ鷓鴣菜ノ名ニ至リテハ上海香港廣東何地ニ於テモ其ノ字スラ見シト云フ者ナシ茲ニ於テ淸國ニ於テ胎兒生ルレバ哺乳ノ前ニ何ヲ與フルヤト探索セルニ山東省ヨリ來リシモノハ卵白ニ黑砂糖ヲ混ジテ飮マスト云ヒ上海ノ人ハ益母膏ヲ飮マスト云ヒ或ル地方ノ人ハ犀牛黃ヲ飮マスト云ヒ廣東澳門地方ニ於テハ黃蓮煎汁ヲ與フト謂ヒ或ハ川連末ヲ與フトモ謂ヒ終ニ鷓鴣菜ノ行衞ヲ失セリ思フニ漳州邊ニテ探索シナバ或ハまくりヲ與フル習慣ヲ見ンカ澳門ニ於テ一支那醫（看板ニ扁鵲直傳トアリ）ヲ訪ネテ之レヲ尋ヌルモ何等ノ解答ヲ得ザリキ

益母膏（Imoko, Shanghai）ハめはじき卽チ益母草（Imoto, Shanghai）ヲ陰乾シテ貯ヘ之レヲ煎ジ詰メタルモノニシテ黑色ノ練リ藥ナリ味ヒ甘ク全ク黑砂糖ノ軟カナルニ似タリ余ハ上海太馬路ノ老藥舖采芝堂ニ至リ之レヲ買ヒ求メ更ニ其ノ原料ヲ見セヨト請ヒシニめはじきノ花ヲ著ケシ乾燥品ヲ持チ來レリ彼等ハ此藥中ニハ黑砂糖ヲ含マズ草ヲ煮詰ムレバ斯クノ如クナルナリト謂ヘリ然レドモ其ノ價每兩伍分卽チ十弗五錢ナルヨリ考フレバ少シク疑ハシ果シテめはじきヨリ斯カル甘液ヲ多量ニ煮出シ得ルニヤ能書ニ曰ク治婦人停經乾血癆疾產後惡露不淸發熱咳嗽癥瘕腹痛男子勞傷吐血瘀血等症

犀牛黃（Sheeniuwang, Shanghai）ニ就キテハ面白キ話ア

紫菜ノ文字ヲ書シ之レ如何ト再問スレバ然リ其レモ食フト答フ此種ノモノ他ニ覺エナキヤト再問スレバ其ノ他ニナシト云フ髮菜ナルモノハ如何ト問ヘバ其レナラ食フト云フ葛仙米ハ如何ト云ヘバ其レモ食フト云フ是等ハ藻類ニ非ズヤト難ズレバ爾リ藻類ナリト應ズ茲ニ於テ香港廣東上海ノ三箇處ニ於テ余ガ嘗テ知ラザリシ藻類ヲ食用ニ供スルヲ發見スル能ハズシテ已ミタリ清國ニ於テハ長年月ヲ費ヤサバイザ知ラズ或ハ一ニ標品ヲ示シテ質問ナサバイザ知ラズ彼等ノ頭腦中ヨリ何物ヲカ引キ出サントスルハ大ナル困難ノ事業タルト共ニ彼等ハ何ガ藻類ヤラ何ガ菌類ヤラ知ラザルガ如シ普通ノ海味洋行卽チ海產物問屋ニハ椎茸其他ノ食用菌類ヲモ販賣シ魚肚海參貝柱ナドヲモ併セテ陳列セルガ故ニ其ノ何ガ海味ニシ何ガ否ラザルカ解シ難キナルベシ更ニ清國ニ於ケル調查ノ困難ナルハ同一地ニ於テモ二人ノ言フトコロ往々齟齬スルアリテ孰レヲ信ズベキカ取捨ニ惑フコト少ナカラザルニ在リ斯クノ如クニシテ清國ニ於ケル食用藻類ニ就キテハ余ハ物質的ニハ一モ加フルトコロヲ得ザリシト雖ドモ其ノ漢名ニ至リテハ從來余ガ疑ヲ抱キシ點ニ對シ若干ノ解釋ヲ與ヘタルアリ同時ニ新疑問ヲ生ジタルコト二三ニ止マラザルモ是等ハ短時間ヲ以テハ解クニ由ナシ今茲ニ調查ノ結果ヲ略述シ遙カニ本國ノ讀者諸君ノ示敎ヲ乞ハントス

海帶 (Haitay, Shanghai; Hoitai, Canton)　日本ニ於ケル昆布ナリ昆布ナル文字ハ清國ニ於テハ異ナル海藻ヲ指セリ後文ニ說クベシ北淸地方ニテハ我ガ昆布ヲバ海帶菜又ハ海菜ト稱シ日本產ヲバ特ニ香帶ト稱シテ琿春產ト區別スト雖ドモ既ニ知レリ然ルニ本邦ニテハ海帶ノ文字ハ時トシテあらめニ充用セラレタルコトアレドモ昆布ニ用キラレタルヲ見ズ山本世孺ガ琉球國志略ニアル海帶菜ヲ指シテ昆布ノコトナリト解キタルハ今日ヨリ以テ見レバ甚ダ理由アルニ似タレドモ琉球ニハ昆布ヲ產セズ隨テ志略ニ謂ヘル海帶菜ハ淸國ニ於ケル海帶ト同ジカラザルヤノ疑アリ孰レニシテモ我ガ昆布ニハ淸名（漢名ト曰ハズ）トシテ海帶ナル文字ヲ擧グベシ

昆布ノ刻ミタルヲバ上海ニテハ絲菜ト稱ス北淸營口ニテハ靑絲菜ト呼ブコトハ余ガ嘗テ聞知セルトコロナリ上海ト相似タリト謂フベシ

海菜　昆布ノコトヲ海菜トモ呼ブコト前ニ謂ヘリ然レドモ海菜 Haitsay, Shanghai; Hoichoy, Canton)トハ海藻類ノ總名ナルガ如シ上海稅關標本室ヲ訪ヒタルニ我ガまくりヲ海菜ト稱シ產地日本トアルヲ見タルノミナラズ海粉ナルモノニ一名海菜ト貼紙シアルヲ見タリ

此海粉ナルモノハ暗綠色ノ細條ニシテ不規則ナル粉塊ヲナシ宛然刻昆布ノ亂レタルニ似タリ稅關ニ於テハ之レヲprepared sea-weed ノ中ニ分類セリ今之レニ就キテ熟視

ローマン氏ハ「アツペンヂクラリヤ」ノ粘質被膜ニ小生物ノ堆積スルヲ見其研究ヲ思立チ概シテ遠心器ノ作用ニヨリ水中ノ塵微浮生界ヲ集合セシメタリ。其ノ量單位トシテハ最近ノ報ニヨレバ一立方「センチメートル」ヲ使用センストスルモノヽ如シ。只微生物ノ乏シキ場合ニ限リ十及ビ百立方「センチ」ヲ採用スベシト云フ。飜テベレゼン一派ノ一立方米單位ハ時トシテ生物數百萬ニ上ルコトアリ。此數ハ勿論一立方「センチ」ニ換算スルヲ得可キモ時ニ不都合少カラザルナリ。本著者ハ殊ニ一立方仙米浮生物容器ヲ製シリシヤルノ採水器ニテ水中各所ヨリ採水シ之ヲ該器ニ入レ一立方「センチ」內ノ浮生物ヲ計算シ以テ水中ノ物質變化ノ研究ニ資センコトヲ試メリ。該器ハ二、六三「ミリメートル」ノ高サヲ有スル硝子板ノ中央ニ直徑二二「ミリ米」ノ孔ヲ穿チ以テ底板ニ癒着セシム。其ノ上面ニハ〇、五「ミリ米」ノ厚サヲ有スル蓋板アリ此板ハ齒車上ヲ走ル棒ニヨリ下板上ヲ密着シツヽ前後ニ運動シ得ベシ。周圍ハ眞鍮製ノ框ヲ拑シ破損ヲ防グ。著者ハ本器ヲ以テ地中海諸所ノ海洋ニ於ケル浮生物ヲ計算シ以テ其ノ單位ノ使用ニ足ルベキヲ示セリ。斯クノ如ク著者ハ一立方「センチメートル」單位ハ浮生物ノ變遷ヲ示スニ充分ナルベキヲ唱導セリ。若シ其ノ量大ナル時ハ更ニ廿分ノ一立方「センチ」米容器ヲ使用セリ。近時浮生物學ノ研究ノ進捗スルニツレ其ノ量ノ從來ノ想像セシ如ク微量ナラザルヲ知ルニ至レリ。彼ピユッター氏ノ動物營養論ハ一面這般ノ理ヲ指示スベキモノニシテ從來ノ意味ニ於ケル浮生物ノミニテハ到底魚類ヲ養フニ足ラズト云フ。以テ塵微浮生界ノ重大ナル知ルベキノミ。モシスノ方面ノ研究ニシテ大ニ進捗スルアラバ浮生物學ト細菌學トハ大ニ接近シ來リ水中物質代謝作用ハ正ニ闡明ノ域ニ達スベキナリ。（NAKANO.）

◎雜錄

○海藻ノ漢名ニ就テ

遠山吉三郎

余ハ渡歐ノ途次上海ニ二週間、香港廣東地方ニ二週間滯留シ是等ノ地方ニ於ケル藻類ノ消費狀態ヲ知ラント試ミタリ然レドモ本國ニ在リテ想像シタルトコロト實地トハ酷ダシク相違シ豫期ノ如キ效果ヲ收ムルヲ得ズ是レ余ノ足ラザルトコロニ坐スト雖ドモ要スルニ淸國ニ於テ或一事ヲ調査セント欲セバ短日月ニテハ決シテ思フ樣ニハ行カザルヲ悟レリ、

試ミニ普通ノ智識ヲ有セル淸國人ヲ捕ヘテ貴國ニ於テハ如何ナル藻類ヲ食用ニ供スルヤト尋ヌレバ海帶ト答フ海帶ノ他ニ何ヲ食フヤト問ヘバ他ニ之レナシト答フ然ルニ

分裂ハ單數染色體ヲ有スル花粉粒ニ於テモ同樣ニ行ハル、ネメッツ氏ノ泡水「クロラール」ニテ處理シタルそらまめノ根ニ於テ異型核分裂ナリト見做シタルガ如キ分裂像ハ著者ノ研究ニヨレバ寧ロそらまめニ於ケル一般普通ノ場合ナリト、(Y. Kuwada)

ケンプ氏『體細胞ニ及ボス「ストリキニン」ノ作用ニ就テ』

Kemp, H. P., Note on the action of Strychnine upon some Somatic cells. Ann. of Bot. Vol. XXV. No. C. Oct., 1911.

曩ニネメッツ氏幷ニ著者ノ「クロラール」ノ植物ノ體細胞ニ及ボス影響ニ就テノ研究アリ、嘗テヘルトウヒ氏ハ「ストリキニン」ヲ以テ處理シタルうにノ卵細胞ニ於ケル異狀核分裂ヲ報ジタリ、著者ハ植物體ニ及ボス「ストリキニン」ノ作用ヲ知ラント欲シえんどう幷ニそらまめヲ材料トシテ之等ノ幼根ヲ硫酸「ストリキニン」及ビ水酸化「クロール」、「ストリキニン」ヲ以テ處理シタルニヘルトウヒ氏ノ記載セシガ如キ異狀ノ場合ヲ見ルヲ得ザリキ、茲ニ於テ著者ハ鹽類ノ解離ヲ增進セシメシガ爲メ炭酸曹達又ハ苛性曹達ヲ加ヘテ稍々「アルカリ」性トナシタレドモ再ビ前回ト同樣異狀ナカリシカバ遂ニ毒物ノ滲透ニ留意シテ材料ヲ水液培養トシ發散作用ヲ盛ナラシメテ藥物ノ吸收ヲ增進セシメ且ツ積極的ニ莖幷ニ葉ニ於ケル「ストリキニン」ノ存在ヲ化學的ニ確メ其ノ細胞ニ及ボセル影響ヲ研究シタレドモ同ジク異狀ノ場合ヲ發見スルヲ得ザリキ、勿論其ノ分量ノ大ナルトキハ生活機能ニ阻礙ヲ來タシ遂ニ敗壞ニ歸スト雖モ以上ノ實驗ハ「ストリキニン」ノ組織內ニ特種ノ影響ヲ及ボサヾルヲ示スモノニシテ著者ハ動物ノ卵細胞ト植物ノ體細胞トノ生理的差異ガ以上ノ如キ差ヲ來タセシ原因ナリトセリ、(Y. Kuwada)

○コルクウイッツ氏『淡水及海洋中ノ單位容器浮生物ニ就テ』

Kolkwitz, R., Ueber das Kammerplankton des Süsswassers und der Meere Ber. d. Deutsch. Bot. Gesllsch. 1911 Juli.

ブランド及ビアプスタイン一派ノ浮生物計算法ヲ世ニ問フヤ浮生物學ニ長足ノ進步ヲ催シタリト雖モ其首唱セル採集網ハ網目大ニシテ小形生物ヲ逸スルノ憾アリシハ既ニ知ラレタル事實ナリ。然ルニ此等逸出セル小生物コソ水中ノ營養現象及ビ其他ノ化學變化ヲ說明スルニ當リ缺ク可ラザルモノナルヲ以テ近時該方面ノ研究ハ漸時ニ進捗セントスルノ傾ヲ見ルナリ。先ニハローマン氏ノ塵微浮生界ノ（Nannoplancton＝Zwergplankton）ノ研究アリ。

新著　○ケンプ氏『體細胞ニ及ボス「ストリキニン」ノ作用ニ就テ　○コルクウイッツ氏『淡水及海洋中ノ單位容器浮生物ニ就テ』

細胞ヨリ隣接セル他ノ母細胞ニ原形質連絡ヲ通ジテ核質ノ推出サル、コトアリ、著者ハ此ノ現象ニ Cytomyxis ナル名ヲ命ジタリ、如斯推出サレタル核質ハ細胞膜ヲ通過シタル後一塊ニ集合シ其ノ周圍ハ核膜狀ノ膜ヲ以テ廻ラレ玆ニ僞核ヲ形成ス、其ノ核質ハ遂ニ「スプレム」ニ似タル外觀ヲ呈スルニ至ルト雖モ後核膜消失シテ核質ハ遂ニ細胞質内ニ混和サル、ニ至ル、而シテ核質推出ノ際核ハ細胞膜ニ密接シ居レドモ推出後再ビ舊位置ニ復ス、斯ノ如キ核質推出ノ遺傳幷ニ染色體ノ固體性ニ關シ重大ナル意味ヲ有スルヤ明ナリト雖モ未ダ之ヲ論ズルノ時期ニ達セズト、

異型核分裂ノ後期ニ於テ染色體ハ往々橫裂又ハ縱裂ノ徵候ヲ示ス、而シテ同型核分裂ノ末期ニ於テ染色體ハ其ノ中央ニ於テ絞レ居ルヲ常トス、

異狀發育ノ場合ニ於テモ其ノ減數分裂ハ大體ニ於テ正常ノ場合ト同樣ナレドモ花粉囊ガ母細胞ノ生長ニ伴ヒテ增大セザルガ爲メ母細胞ハ成熟スルモ尙ホ多角形狀ヲナシテ遂ニ遊離スルヲ得ズ、尙ホ異型核分裂後隔膜ヲ生ジ又ハ娘核以外ノ小核ヲ生ズル等ノ異狀アリ、

最後ニ著者ハギガスノ染色體ノ起原ニ就キテハストンブス氏ノ說ニ反對シ受精セル卵細胞ノ不完全核分裂ニ起因スルカ又ハ母細胞ノ不完全核分裂ノ結果染色體數ノ倍加ヲ來タシ同時ニ單性的ニ發育シタルモノナラントセリ、

(Y. Kuwada)

○フレーザー、スネル兩氏『そらまめニ於ケル營養體ノ核分裂』

Fraser, H. C. O. and **Snell, F.**, The Vegetative Divisions in *Vicia Faba*. Ann. of Bot. Vol. XXV. No. C. Oct., 1911.

著者ハそらまめニ於ケル常型核分裂幷ニ減數分裂ヲ研究シ先ヅ根ノ先端、花粉粒等ニ於ケル常型核分裂ノ結果ヲ公ニシタリ、染色體ノ數ハ倍數ニ於テ十四個單數ニ於テ七個ニシテ染色體ノ紡錘線ノ兩極ニ達スルヤ其ノ長サヲ短縮シ相集合シテ互ニ密接ス、而シテ娘核ノ形成サル、ニ至リテ染色體ノ集合ノ弛ムニ至ルモ相隣接セル染色體ハ尙ホ側面連接ヲ以テ所々互ニ相連結シ之ガ爲メ遂ニ染色體ニ縱溝(縱分裂)ヲ作ルニ至ル、此ノ縱溝ハ相隣接セル染色體ノ連結部ニ於テ益々廣クナリ遂ニ金剛石形ノ空虛ヲ殘シ、尙ホ各染色體ハ各自ノ兩端ヲ以テ互ニ相融合シ一二個ノ仁現ハレテ靜止期ニ入ル、扨テ斯ル靜止核ノ新シク核分裂ニ入ルニ及ベバ側面連接破斷シテ金剛石形ノ空虛ノ兩側相接近シ斯クシテ複條核絲ヲ生ズ、此ノ核絲ハ橫ニ斷節シテ縱分裂ヲナセル染色體トナル、卽チ染色體ノ縱分裂ハ前回ノ核分裂ノ終期ニ於テ已ニ行ハレ靜止期中ト雖モ尙ホ存在セルモノナリ、而シテ斯ノ如キ縱

リ、而シテ其ノ狀態ハ只染色體ノ數、毋細胞、核、花粉粒等ノ大サニ差ヲ有スルノミニシテ其他ノ主要ノ點ニ於テハ兩者共ニ同樣ナリ、著者ハ「シナップシス」ニ就キテハローソン氏ノ核ノ容積ノ增大ニヨルトノ說ニ滿足セズ、「シナップシ」ノ結果ハ核絲ノ肥厚ト短縮トニシテ此ノ二現象ハ該問題ニ關シ著者ノ疑問トスル所ナリト云ヘリ、染色體ノ形成ハ單一核絲ノ斷節ニヨルモノニシテ決シテ平行セル複條核絲アルヲ見ズ、卽チ父母兩系ニ屬スル染色體ノ核絲ニ於ケル排列ハ端ト端トニシテ所謂「テロシナップシス」ナリ、一般ニ該兩植物ニ於テハ普通見ルガ如ク斷節セシ染色體ノ對的結合ヲナセルコト稀ニシテ「ヂアキネシス」期ナク十四個（ラマルキアナ）又ハ二十八個（ギガス）ノ染色體ハ其ノ初メ連鎖狀ヲナシテ何レガ其ノ配偶ナルヤヲ見分ケ難シ、各染色體ハ異型核分裂ノ後期ニ於テ已ニ縱裂ヲ示シ中間期（異型同型兩核分裂間ノ）ニ於テハ兩半互ニ外方ニU狀ニ屈曲シテ娘狀ヲナシ其ノ縱列ナルコト明ナリ、而シテゲーツ氏ノ報ゼシガ如ク橫裂ノ模樣更ニナシト、第一核分裂ハ減數分裂ニシテ第二核分裂ハ均等分裂ナリ、尙染色體ノ分布ニ於ケル異狀ヲ記載セリ、

ギガスノ染色體ノ起原ニ就テハラマルキアナノ異型核分裂ニ於テ約二十八個ノ染色體ヲ示セル一例ヲ觀察セシト云フゲールツ氏ノ記載ヲ引用シテ其ノ可能性ヲ說キ、且ツゲラシモー、ネメッツ、ケンプ氏等ノ實驗的ニ染色體數ヲ倍加セシメタルヲ述ベテギガスノ染色體ノ起原ニ就キテモ亦實驗的研究ノ興味アルコトヲ暗示セリ、而シテギガスハ進步的偶然變種ニシテ其ノ特有性ハ其ノ親タルラマルキアナノ「ジャームプラズム」ノ變化ノ結果ニシテ細胞學上ノ研究範圍內ニテハ染色體數ノ倍加ハ其原因ノ最モ明白ナルモノナリト云ヘリ、（Y. Kuwada）

○ゲーツ氏『エノテラ、ギガスニ於ケル花粉ノ形成』

Gates, R. R., Pollen Formation in *Oenothera gigas.* Ann. of Bot. Vol. XXV, No.C. Oct., 1911.

著者ハエノテラ、ラマルキアナ幷ニ其ノ偶然變種ニ於ケル減數分裂ノ諸期ニ就テハ已ニ記載セルトコロアルヲ以テ今再ビギガスニ於テ一々之ヲ繰返ヘサズ單ニ「シナップシス」其ノ他必要ナル諸期ニ就テ論述シタリ、從來「シナップシス」ノ本性ニ就キテハ諸說紛々トシテ今尙暗中ニアルノ有樣ナルガ著者ハローソン氏ト同樣ノ見解ノ下ニ之ヲ觀察シテ本期ノ初期ニ於ケル特徵ハ第一ニ核ノ容積ノ急激ニ膨大スルコト、第二ニ之ニ伴フ核質ノ生長ナクシテ網狀態ヨリ「スピレム」狀態ニ移ルコトヲ示摘シタリ、「シナップシス」期ニ於テ或ル花ニ於テハ一ツノ母

尙他ノ各地ニ於ケル孟宗竹栽培ノ歷史、其他栽培竹林ノ移植ノ歷史ヲ知ルハ竹類研究上最モ有益ナルコトナルベク昔時交通ノ便惡シキ時代ニ於テハ普通根莖ノ分株ニヨリテ繁殖セシメラルヽ竹類ノ移植狀態ハ自ラ單純ナル系統ヲ有スルモノナルベシ

本邦各地ニ栽培セラルヽ寒山竹（Arundinaria Hindsii Munro.）ニ數年前ヨリ開花スルモノアルヲ見聞シ居タルガ昨年來九州四國中國等ヨリ通信ニ依ルニ其地方ニ於テ寒山竹ノ開花スルモノ愈々多キヲ加ヘタル由ナルニ余モ亦昨今京濱地方ノモノガ一樣ニ開花シツヽアルヲ認ム、他ノ各地ニ就テハ未ダ之ヲ確カメザルモ恐ラク本年ハ此竹ノ開花スルモノ各地ニ多カルベシト思ハル然シテ若シ全國各地ニ就テ調査シ得タル結果、果シテ余ガ想像ト一致スルナランニハ寒山竹ハ今ヤ其時期ノ到レルモノト知ルベシ

『竹類開花ノ原因ニ就テ』ト題シテ記セルモノ、中本誌第二百九十四號第二百六十四頁淡竹開花年代表第三行此間六十年トセルハ六十二年ノ誤、又第二百九十五號第二百九十五頁ニ Brückner トセルハ Brückner ノ誤、從ツテ後頁數ケ所ニブルヒナートセルハ皆ブルックナーノ誤ニ付キ序テ以テ茲ニ正誤ス

◎新著

○デーヴィス氏『エノテラ、ラマルキアナトエノテラ、ギガストノ減數分裂ノ比較

Davis R. M., Cytological Studies on *Oenothera*, III. A Comparison of the Reduction Division of *Oenothera Lamarckiana* and *O. gigas*. Ann. of Bot. Vol. XXV. No.C. Oct., 1911.

著者ハ曩ニエノテラノ雜種ノ實驗ヨリドフリース氏ノ偶然變化說ヲ以テ有名ナルエノテラ、ラマルキアナハ雜種ナリトノ說ヲ出シテ、ラマルキアナノ所謂偶然變種ナル多クノエノテラハメンデル氏ノ法則ニヨリ分離シタルモノナラント暗示セリ、然レドモ此等ノ偶然變種中獨リギガスハ其ノ出現非常ニ稀ニシテ數千ノラマルキアナノ栽培中僅ニ七度出現シタルノミニシテ本植物ハ判然タル特性ヲ有シ其ノ核ハ正ニラマルキアナノ倍數ニ相當スル染色體ヲ有シテ眞ノ偶然變種ト見做ス可キモノナレバ特ニ此等兩者ノ減數分裂ニ就キ精細ナル比較研究ヲ企テタ

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『淡竹、俗ニはちくト云フ寛政元、酉年國中竹花咲テ皆枯ル云々』越後名寄ナル書ハ世ニ存スルコト多カラザル珍書ナリ、白井博士ハ特ニ內閣文庫所藏ノモノヲ借覽セラレタル際遇々此記事ヲ見出サレタルナリ、

寛政元年ハ西曆千七百八十九年ニシテ明治四十二年ヲ距ル實ニ百二十年ナリ又余ガ曩ニ淡竹ノ開花年表中ニ擧ゲタル天明六年（前後）ノ後僅カニ三年ノコトナレバ五穀無盡藏ノ著者上原無休ガ天明七年ニ『……（開花）今ニ止マザル故遲ヒカ速イカ淡竹ノ籔ハ終ニ絕ユルニ至ルベシ……』ト記セルト其年代ノ符合スルヲ識ルベシ、故ニ天明時代ニ於ケル淡竹ノ普遍的開花ハ東京、京都等二三ノ地方ノミニ限ラズ遠ク越後地方ニ迄及ビシハ此書ノ記事ニ依リテ明カニ知ルヲ得ベシ、尙ホ其他ノ地方ニ就ケル一々ノ實證ハ昔時ノコトヽテ今俄カニ盡ク之レヲ擧グル能ハザレドモ曩ニ採リ得タリシ記錄ノ記事ハ盡ク余ガ卑見ヲ確ムル證左トナルモノノミニシテ一ツモ之レニ反スルモノナカリシガ今又茲ニ越後國ニ於ケル淡竹開花ノ狀態ヲ知ルヲ得テ愈々同種類ノ竹ノ開花ハ週期的ニシテ且ツ普遍的ナルコトノ事實ヲ一層精密ニ知ルヲ得タルナリ、

孟宗竹（江南竹）ガ本邦ニ渡來セシハ元文元年島津吉貴之レヲ琉球ヨリ得テ鹿兒島ニ植ヘタルガ始メニシテ夫ヨリ各地ニ移植セラレタルモノナリト傳ヘラレ東京ニハ比較的早ク今ヨリ百餘年前山路氏ガ海路ニ依リテ直接鹿兒島ヨリ持歸リ市外目黑村ニ植ヘタルモノガ因トナリ附近ニ分株繁殖シタルコトハ曩ニ記シ置タルガ余ガ昨秋菌類採集ノ目的ヲ以テ越後國各地ニ旅行シタル際同地方ニ孟宗竹林ノ多キヲ目擊シテ其地ヘ移植シタルハ比較的古キコトナルベシト想ヒ其來歷ヲ調ベタルニ同國柏崎ニ曾テ山田靜里ト云ヘル人アリテ和歌ヲ能クシ屢々京師ニ往復シ紫野大德寺ノ僧某、其他知名ノ僧侶、公卿ニ交ハリ居タリシガ或時京都ヨリ孟宗竹ノ根株ヲ携ヘテ歸國シ柏崎ノ極樂寺境內ニ植ヘタルニ其後能ク繁殖シタレバ各所ニ分株シ爾來次々ニ繁殖セシメタルモノナリト聞ク、之レ同地方ニハ信濃其他ノ隣國ニ比シテ孟宗竹林ノ多キ所以ナリト云フ今其年代ヲ詳ニセザレドモ山田靜里氏ハ醫學士山田隆太郎氏四代ノ祖ナリト云フ、

竹類ノ開花年代ニ關スル記事ノ補遺

川村清一

Kawamura, S., Supplements to "On the cause of the flowering of bamboos"

曩ニ余ガ『竹類開花ノ原因ニ就テ』ト題シテ本誌ニ連載シタル中第二百九十四號ニ於テハ主トシテ淡竹ヲ例トシ古來ノ開花年代ヲ記錄其他ニ依リテ知リ得タルモノヲ列擧シ夫等ガ孰レモ略々六十ノ倍數ニ相當セル年數ヲ隔テ居ルコトヲ述ベ置キタルガ其後更ニ見聞スル所ハ一層余ガ卑見ヲ立證スルモノアレバ今補遺トシテ次ニ之ヲ記スベシ

貴族院議員田中芳男氏談　凡ソ五十年前、今ノ本郷森川町一番地邊ト思ハル、所ニ友人某住ヒ居テ或時訪問シタルニ友人ハ庭ニ植ヘアル淡竹ヲ指シテ『此竹ハ先年淡竹ニ花咲キ枯レタル事ノアリシ時余ガ其種子ヲ播キテ發生セシメタルモノナレバ之レコソ眞ノ實生ノ竹ナリ之レガ今年デ約十年ヲ經タリ』ト友人ノ語ルヲ聞キタル事アリタレバ江戸附近ニテモ嘉永ノ頃ニ淡竹ガ開花シタルモノト思ハル、友人ノ播キシ種子モ別ニ他國ヨリ取寄セシモノトハ思ハレザリシ云々、

長野縣立長野市高等女學校渡邊敏氏談　氏ガ幼少ノ頃鄉里岩代國二本松地方ニテ各所共總體ノ苦竹林、開花シ次デ竹稈ノ枯死セシヲ目擊シタリ、結實ノコトハ記臆セズ開花セシ苦竹林ハ皆一旦枯死セシモ其後跡地ニ小笹生ジ年年ニ太キモノ生出デ、七、八年ヲ經テ漸ク灰吹竹位ノ太サニナリタリ云々、

余ガ曩ニ本誌第二百九十四號ニ於テ弘化、嘉永ノ頃、苦竹ニ次デ淡竹ノ開花シタルコトヲ記シタル際ニハ東京以東ノ地方ニ於ケル實例ヲ擧グル能ハザリシガ左ニ記シタル渡邊敏氏ノ目擊談ニ依リテ考フルトキハ當時苦竹ノ開花ガ遠ク東北地方ニモ及ビシコトヲ確メ得テ昔時ニ於テモ亦苦竹、淡竹等ノ開花ガ普遍的ナリシコトヲ一層精密ニ知ルヲ得ルナリ

白井博士ハ丸山元純著『越後名寄』ナル書ノ竹類ノ條下ニ淡竹開花ニ關スル次ノ記事アルヲ見出シ余ニ報ゼラレタ

セズ）ニ應合ス此物モ竹葉牡丹葉ノ二種アリ、江戸ノ北郊道灌山ニ竹葉ナル者アリ尾州ニハ牡丹葉竹葉二種有リ漢種ハ牡丹葉ニテ根ハ零餘子（ムカゴ）ノ如クニシテ黃色ナリ云々、

猛之進按ズルニ此竹葉云々ト云フハ道灌山ニ今殆ンド絕エニシ「ササバエンゴサク」ナリ、牡丹葉ト云フモノハ草木圖說ノ「オホバエンゴサク」カ又ハ「コバノエンゴサク」卽チ漢種カ韓種カヲ指セルナリ、有用植物圖說ニ延胡索ト云フハ之レニテ必ズ *C. ambigua* ニ非ズ、

以上ヲ綜合スレバ日本ニ漢種トシテ渡來セルモノニハ *C. bulbosa v. remota* ノ三ツノ變種 *genuina, rotundiloba, ternata* アリシト思ハル、而シテ延胡索ノ名ハ廣ク日本ノモノニモ用キラレ彼ノ野山草木通誌、和州吉野郡中物產誌等ニアルモノハ邦產ヲ意味シ今日云フ「ササバエンゴサク」一名「ホソバエンゴサク」ニハ竹葉延胡索ノ名アリ、水谷豐文ノ物品識名ニ「エンゴサク通名ビツチリ」トアルヨリスレバ「ビツチリ」モ亦「エンゴサク」ト混ゼラレシニ非ズヤト思ハル、

三、決論

(一)、支那本草家ノ所謂延胡索ハ葉三出シ葉片無柄根叢生スル種ニテ植物學上未知ノ種ナリ、

(二)、漢種又ハ韓種ノ延胡索ニテ我邦古來漢法ニ用キル爲メ栽培セルモノハ *C. bulbosa v. remota* ノ變種ニテ *f. genuina, f. rotundiloba, f. ternata* ノ三種アリテ「牡丹葉エンゴサク」、「オホバエンゴサク」「コバノエンゴサク」等ノ稱アリキ、

(三)、日本產ノ普通ノ「ヤマエンゴサク」ハ *f. genuina* ノ一形ニシテ和產延胡索又ハ牡丹葉延胡索ト云ヘリ、

(四)、「ホソバエンゴサク」ハ漢種トシテ栽培セルコトナク竹葉延胡索ノ名ヲ用キタリ、

（完）

鮮又ハ遼東ヨリ輸入シ更ニ日本ニ傳ヘシニ非ズヤトモ思ハル、特ニ本草綱目、名實圖考等ニ畫ケルモノハ支那植物調査ノ大ニ進メル今日未ダ一モ學界ニ紹介セラレズ、サルニ *C. bulbosa* ハ廣ク滿韓北淸ニアル種ナレバ自然之レヲ採リテ藥品トスル樣ナリ其中ニ平壤附近ニ產スル *f. ternata* モ安東產トシテ支那ニ入リシモノナルベシ、本草圖譜ノ第二十七枚目ニ畫ケルハ葉モ唐種ト云フモノヨリ大キク周邊ニ鋸齒アリテ稍其形ヲ異ニス其註ニ曰ク、

一種熊本ニ產するは三葉にして中央に紫色の斑あり花紫至根は唐種（からだね）のものに似たり

或ハ別ノ變種ナルヤモ知レズ、サレド別トスルモ徐程近キ品種ナリ九州ニハ朝鮮地方ト共通ノ植物多ケレバ同ジモノ又ハ類似ノモノアルモ敢テ異トスルニ足ラズ、

安政三年（一八五六）上梓セル飯沼慾齋ノ草木圖說草ノ卷十三第五枚裏ニ「オホバノエンゴサク」六枚裏ニ「コバノエンゴサク」トテ二種ノ漢種ヲ畫ク、第五枚目ノモノハ葉三出シ側片二分ス註ニ曰ク、

漢種ニ大小二品アリ（或云大者漢種小者ハ韓產ナリト）大者高一尺許莖軟柔ニシテ直立シガタク葉一柄三極、ソノ中心ナルハ大ニ側ナルハ小ニシテ二裂シ共ニ缺刻深クシテ手掌ノ如ク恰モ牡丹葉ノ態アリ故ニ牡丹葉ノ稱アリ、小者ハ草差小ニシテ葉毎亞又三四トナリ更ニ細ニ分レテ葉數頗ル多シ根ハ共ニ圓塊黃色ニシテ大ナルハ拇指頭ノ如ニ至ル春莖頭有梗花ヲ以テ穗樣ヲナシ形ムラサキケマンノ花ニ似テ微大、體筒樣瓣上下二唇ニ分レ色暗紅紫（小者ハ紅差淡ノ帶靑色）云々、

猛之進按ズルニ大ト云フハ其圖ヨリスレバ明ニ *f. ternata* ニシテ小ハ *genuina* ナリ、或云フ大ハ漢種小ハ韓種ト云ヘルハ國ノ大小ヨリ推シテ考ヘシモノナルベシ、サレド朝鮮ヨリ支那ニ渡リ支那ヨリ日本ニ來レリトスレバ *genuina* モ朝鮮ニ頗ル普通ニアレバ敢テ咎ムルニ當ラズ、

天保三年（一八三二）脫稿シ明治七年（一八七四）其子信昭ニ依リ上梓セラレタル佐藤信淵ノ草木六部耕種法第三卷第二十枚目ニハ左ノ記事アリ、

延胡索ハ氣候ノ寒暖十番ノ土地（猛之進曰、著者ハ赤道下ノ土地ヲ極熱第一番ノ氣候ノ所トシ之ヲ距ル六十六度半ナル所ヲ半晝夜ノ國土ト稱シ此ヲ極寒第二十四番ノ氣候トセリ但シ海流、土地ノ高低等ニ依リ必ズシモ緯度ト一致

ジ、三月ニ開ク小葉ハ山ノ幽谷ニアリ、葉至ッテ小シ苗高サ僅カニ二三寸莖細クシテ絲ノ如シ花ハ漢種ヨリ微シ小シ深山ニテハ四月ニモ花アリ、地冷カナル故ナリ、和產ハ根大ナルモアレドモ多クハ色白ク半夏ノ如シ熊野ニ產スルハ微シ黃色ヲ帶ブ、藥肆ニテ售ル、漢渡ノモノ上品ナリ、根圓ク或正圓ナラズ外皮黃褐色圓ク色黃ナリ、唐山ニテ小サキ半夏ヲ煮テ色ヲツケ僞ルコト錦囊秘錄ニ見エタリ、

弘化元年（一八四四）平安梯南洋重訂本草綱目啓蒙ハ此版ヲ重ネシナリ

猛之進按ズルニ　漢種ノ大葉ハ *C. bulbosa* v. *remota* f. *rotundiloba* ナリ其小葉ハ *genuina* ノ漢種ナリ。和產ノ中葉ハ和產ノ *genuina* ニシテ大葉ハ *genuina* ノ大キク出來往々大形ノ葉ヲ生ズルモノナリ、和產ノ小葉卽チ「莖細クシテ絲ノ如シ」ト云フハ明ニ f. *capillaris* ナリ、

天保二十九年刻（一八二九年）岩崎常正本草圖譜卷七第二十六枚目竝ニ第二十七枚ニ各一種ノ延胡索ヲ圖ス、葉ハ三出シ葉片ハ單一ナカ又ハ二叉ス、註ニ曰ク、

享保年中唐種渡る上品也正二月苗を發す葉は牡丹に似て小く粉綠至花の形黃芩（わうごん）に似たり、根圓（まろく）して皮肉皆黃色指頭（ゆびのあたま）の大さにて上品なり、

猛之進按ズルニ之レ *C. bulbosa* v. *remota* f. *ternata* ニシテ當時漢種トシテ輸入セルモノニ此種ヲ混ジ居リシモノナルベシ、享保年中唐種渡ルト云ヘド寬永十四年（一六三七）既ニ板坂卜齋ガ紀州侯ニ請ヒテ藥草ヲ朝鮮ニ求メシ中ニ延胡索ノ生根モアリシナレバ岩崎常正ガ畫キシモノハ果シテ唐種ナリシヤ疑ハシ、特ニ時珍ガ東北夷ナリト云ヘル奚國トハ今ノ直隸省ノ北部ヨリ遼河流域ニカケタル地方ニシテ安東ヨリ來ルト云ヘル安東ハ唐初ニアリテハ今ノ朝鮮平壤ナリシガ唐ノ中宋頃ニハ遼陽トナリ唐末ニ安東都督府ヲ廢セシカバ北韓ヨリ遼陽ニ至ル邊ヲ習慣上安東トハ呼ベルナリ、而シテ f. *ternata* ガ平壤普通江（パートンカン）岸ニ今日スラ多ク自生アルハ平壤高等普通學校敎授今井半次郎氏ガ「當地普通江岸ノ堤塘上ニ自生致シ居リ候ヤブエンゴサク等ト同樣ノ地質ニ雜居致シ居リ候、但シ寧ロ少ナキ方ニハ御坐候へ共同上江岸ニテハ處々ニ發見致サレ候」ト云フ私信ニ依ルモ明ラカナレバ唐種ナリトスルモ初メハ朝

C. Ledebouriana, C. Pancifiora C. bulbosa v. remota f. terrata ノ葉ハ稍之レニ近キモシカモ葉片ハ決シテ支那本草家ガ圖シ又云フガ如ク竹葉狀ナラズ特ニ球根ガ常ニ三箇許叢生シナガラ單ニ一莖ナルハ最モ異トスベキモノナリ、サレバ之レ必ズ *C. bulbosa* 或ハ *C. ambigua* 等ニ非ズシテ未ダ學界ニ知ラレザル一種ナルベシ

（丙）我國ニ輸入栽培セル漢藥ノ延胡索トハ何物カ、

明和二年（一七六五）島田充房著花彙草部第二卷十頁ニアル圖ハ葉ハ二回三出シ裂片葉柄アリ、其形楕圓形ニシテ少シク切レ込アリ其註解ニ曰ク、

延胡索 ジラウバウ

勢州及ビ尾濃州ニ產ス毎歲寒露ノ後栽ユ、立春苗ヲ發ス、葉魚子牡丹（ケマンサウ）ニ似テ小ニ月莖ヲ起シ花ヲ開ク色淡紫地錦（ムラサキケマン）苗ニ類シテ美ク根半夏（ウルハン）ノ如クニシテ色黃、一種小葉ノ者アリ、貴布彌、鞍馬山中所在ニアリ宿根（フルネ）ヨリ生ズ

猛之進按ズルニ勢州及ビ尾濃州ニ產シ毎歲寒露ノ後栽ユト云フハ明カニ栽培品ナルヲ示ス。卽チ當時花彙ノ著者ハ漢藥ニ用ヰル爲メ栽培シアルモノヲ見シナリ、其圖竝ニ葉「ケマンサウ」ニ似テ小又根ノ色黃ナリト云フヨリ推セバ *C. bulbosa v. remota forma rotundiloba* ニ該當ス、

享和三年（一八〇三）小野職考著本草綱目啓蒙卷ノ九草ノ二ニハ

延胡索、ツブテ江州　ゲモ南部

（一名）滴金卵（藥譜報耕錄）　元胡索（品字箋）　廣壺索（百一選方）　玄胡（萬病回春）　延胡同上　武胡索（外科大成）

享保中漢種渡ル大葉、小葉ノ二品アリ大葉ヲ牡丹葉ト云フ一葉三枝枝毎ニ三葉、葉ノ末五分ニ分レ至テ小ナレドモ牡丹葉ノ狀アリ、十二月或ハ初春苗ヲ生ズ大葉ハ苗高サ五寸許、小葉ハ短小ナリ葉ハ皆和產ヨリ厚シ、正二月花ヲ開ク、形紫堇花（ムラサキケマン）ノ花ニ似タリ初ハ紫色後ハ漸ク青色ヲ帶ブ花後小扁莢ヲ結ビ四月ニ苗枯ル、和產ニ大葉、中葉、小葉ノ三種アリ、大葉ハ濃州ニアリ、葉ハ荷包牡丹（ケマンサウ）ノ葉ニ似テ小ナリ、中葉ハ紀州、勢州、田野道傍ニ多シ勢州粥見ニテ此花ヲ次郎坊ト云紫花地丁（スモトリバナ）ノ花ヲ太郎坊ト云小兒ノ戲ニ兩草ノ花萼ヲ互ニ勾引シテ勝負ヲ決ス、花ハ漢種ト同

又本草圖譜第七卷ノ延胡索草木圖說第十三卷ノ大葉延胡索ハ何レモ FRANCHET, SAVATIER 氏ガ *C. Vernyi* ト云フモノヽ一部ニシテ葉ハ一回三出シ葉片ハ菱形又ハ卵形ニシテ邊緣ニ鋸齒アリ、稀ニ二又スルモノナリ。之レハ Dr. SAVATIER ガ江戶附近ニテ採リシト云フモノニ非ズ、而シテ他ニ之レニアツルベキ名稱ノ未ダ定マレルモノナシ故ニ余ハ **C. bulbosa** *V. remota forma ternata* ト命名セントス

以上ヲ綜合スレバ亞細亞產ノ *Corydalis bulbosa* ハ歐洲產ノモノト異ナリ其變種トスベキモノナルコト、其中ニ種種ノ變種、變態アリテ種々ノ名稱下サレシガ之レヲ大別スレバ *genuina, rotundiloba, linearriloba, capillaris, ternata* ノ五群トナスヲ得ベキ事ニ歸著ス

(乙)　支那ニテ本草家ノ所謂延胡索トハ何カ、

明神宗萬曆二十四年（一五九六）上梓セル李時珍ノ本草綱目第十三卷草ノ二第三十八枚裏ニ

延胡索 宋開寶

(釋名)玄胡索(好古曰)本名玄胡索避宋眞宗諱改玄爲延也

(集解)(藏器曰)延胡索生奚日從安東來根如半夏色黃(時珍曰)奚乃東北夷也今二茅山西上龍洞種之每年寒露後栽立春後生苗葉如竹葉樣三月長三寸高根叢生如芋卵樣立夏掘起根

トアリ又第一卷二十二牧ノ表ニ一本ノ圖アリ、根ハ三箇許相集マリ、之レヨリ莖ヲ生ジ葉ハ殆ンド等距離ニ附著シ葉柄アリ、葉身ハ三裂シ、裂片ハ披針形ナリ。寺島良安三才圖會（一七一三年）第九十二山草下ノ卷ニアル圖ハ此圖ヲ模寫セルモノナリ。

淸宣宗道光二十八年（一八四八）吳其濬著名實圖考卷ノ三第三十七枚ニハ二本ノ圖ヲ畫キ其特徵本草綱目ニアルモノニ同ジケレドモ彼レニアリテハ稍縮小セル觀アルニ之レニアリテハ自然大ニ表示シアルガ如シ、其裏ニ延胡索開寶本草始著錄宋人藥名詩到處遷延胡索人其入藥蓋已久今茅山種之爲治婦科腹痛要藥ト云フ註解アリ、之レニ依テ考フルニ支那ニテ本草家ノ所謂延胡索ハ何レモ根ガ三箇許叢生シ、葉ハ三裂シ裂片披針形ヲナシ根黃色ノモノナリ、斯ノ如キ *Corydalis* ハ植物學上未知ニ屬ス

圓ニシテ全緣又ハ僅カノ切レ込ミアリ、此ハ滿韓ニアリテハ多クハ先ノ丸キ楕圓又ハ二三又スルモノ多キモ内地ノモノハ全ク楕圓ニテ兩端トガルモノ多シ、牧野氏ガ植物學雜誌第八卷ニテ *C. bulbosa a. typica* ト云フモノハ卽チ内地產ノ *genuina* ニシテ歐洲產ノ type ノモノトハ大ニ異ナレリ。又同氏ガ *γ. rotundiloba* トシテ延胡索ナリトシ同氏校訂植物圖鑑ナドニモ漢種ト混スルハ滿韓產ノ *rotundiloba* ノ如ク大ナル葉片ヲナサズ且ツ全ク球形又ハ球形ニ近キ形ヲナスモノニテ葉質モ薄シ、之レ卽チ *genuina* ノ一變態ナリ、又 Franchet Savatier 兩氏ガ日本植物目錄第二卷ニテ *Corydalis laxa* ト云フ新種ノ記載セルハ葉ガ二三回二出シ葉片ハ廣披針形ニテ各二セメ位ノ小葉柄ヲ有スト云フモノナリ、之レ亦 *genuina* ノ一變態タルヲ失ハズ。

次ニ滿韓ノ所謂 *rotundiloba* ト云フハ葉ハ二回三出シ葉片ハ丸ミテ帶ビタル倒卵形ナルカ又ハ稍菱形ヲナシ、葉ノ基部稍尖ルモノヲ混ジ葉質厚キモノナリ。珠ハ通例稍黃色ヲ帶ブ之レニ種々ノ變態アリテ爲メニ種々ノ名稱アリ。

Maximowicz, Komarov 二氏ガ *C. remota* v. *rotundiloba* ト云ヒ Regel 氏ガ *C. solida* v. *rotundiloba* ト云ヒ Savatier 氏ガ江戶附近ニテ採リ Franchet 氏ト共ニ *Corydalis Vernyi* ノ名稱ヲ下セルモノ竝ニ花彙。本草綱目啓蒙。有用植物圖說等ノ延胡索、此レ等ハ凡テ同一ノモノナリ、其一變態ニテ Komarov 氏ガ *C. remota* v. *pectinata* ト云フハ葉片ノ先端程太マリ先端櫛齒狀ヲナスモノ竝ニ Maximowicz 氏ガ *C. fumariifolia* トシ Komarov 氏ガ *C. remota* v. *fumariifolia* トスルモノ卽チ葉片ノ先端程太マリ二回三又スルモノナドアリ、

linearilloba ト云フハ Siebold, Zuccarini 兩氏ガ一八四三年 Flora Japonica Familiæ Naturæ 第一卷ノ n. 286 ニ *C. linearilloba* ナル新稱ヲ下セルモノニテ Maximowicz Komarov 氏ハ之レヲ *C. remota* v. *linearilla* トシ Regel, Miquel 二氏ハ *C. solida* v. *linearis* トシ其他 Siebold, Zuccarini 二氏ガ *C. orthoceras* ト云ヒ Franchet Savatier 二氏ガ *C. senanensis* ト云ヒ Miquel 氏ガ *C. solida* v. *orthoceras* ト云フモノハ皆此レノ異名ナリ、

又玆ニ *C. bulbosa* v. *capillaris* トシテ牧野氏ガ植物學雜誌第十二卷ニ記述セルハ莖極メテ細ク葉ハ三四回二出シ葉片小ニシテ丸ク稍倒卵形ノモノナリ。

等）然レドモ又 *C. solida, C. remota* 等トシテモ知ラル、

Corydalis solida トハ Ehrhart 氏ガ一七八七年 *Fumaria solida* トシテ Beiträge zur Naturkunde etc. 第一卷ニ發表セルヲ James Edward Smith 氏ガ一八〇四年 Flora Britannica 第三卷二五二頁ニテ改名セルモノナリ、サレバ *Fumaria bulbosa* ガ *F. solida* ヨリ二十三年早キ丈ケニ Priority ヲ爭フ上ヨリスレバ *C. bulbosa* ヲ採用スルガ至當ナリ、從テ *C. solida* ハ其異名ナリ、

Corydalis remota ハ Fischer 氏ガ標品ニ附シタル名ヲ Maximowicz 氏ガ一八五九年 Primitiæ Floræ Amurensis ニテ發表セル名ニテ Maximowicz 氏ハ Fischer 氏ト共ニ歐洲產ノ *C. bulbosa* ト亞細亞ノ所謂 *C. bulbosa* トハ全然別種ナリト考ヘシナリ、Friederico Schmidt 氏 Komarov 氏等此レト同意見ナリ、又 Korschinsky 氏ハ種トスル程ニモナシトシテ亞種トシ *C. solida* subsp. *remota* ト命名セリ、此等ノ亞細亞產ガ歐洲產ト異ナルト云フ點ハ花冠ノ下面ニ突起ナキ事、花形大ナルコト、植物又大ナルコト、苞ノ分岐不規則ナル事等ナルガ今敎室所藏ノ歐洲產 *C. bulbosa* 三十本ト亞細亞產ノ所謂 *C. bulbosa* 三十七本トヲ比較スルニ

一、莖ノ大小ハ生ズル所ニ依リ異ナリ之レハ區別ノ點トナラズ

二、苞ノ切レ込ハ比較的ノ事ナレドモ亞細亞產ノモノハ歐洲產ノモノヨリハ概シテ不規則ニ切レ込アリ。

三、花冠ハ大小アレドモ統計上亞細亞產ノ方大ナリ。

四、花冠ノ突起ハ同ジク統計的ナレドモ亞細亞產ノモノハ突起ノ明亮ナルモノ極メテ乏シ。

之レニ依テ見レバ到底種トスベキ價ハナクモ亞細亞ノ一變種トスル價ハ充分ナリ、故ニ余ハ歐洲產ノ *C. bulbosa* ニ對シテ **Corydalis Bulbosa** v. **Remota** ト云フ名ヲ採ラント欲ス。

サテ此變種卽チ *C. remota* Fischer ニハ種々ノ變種記載セラレアリマキシモウヰッチ氏ハ 1. *genuina*, 2. *rotundiloba*, 3. *linearilobα* ノ三變種ヲ記載シコマロフ氏ハ 1. *genuina*, 2. *pectinata*, 3. *linearilaba*, 4. *rotundiloba*, 5. *fumariæfolia* ノ五變種ヲ記載ス、其同名ナルモノハ各同一ノモノヲ指スナリ、其中 *genuina* ト云フハ葉ガ二三回三出シ、葉片楕

サレバ「えんごさく」ノ學名トシテ *Corydalis Vernyi*, *C. ambigua*, *C. bulbosa* v. *rotundiloba* ノ三種ヲ得タリ、

二、漢種ノ延胡索ハ果シテ何カ、

延胡索ノ學名トシテ三種ノモノ表ハレシ今日漢種ノ延胡索ハ果シテ以上ノ中何レヲ採用スベキ品ナルカ將又右ノ中ニ屬セザル品種ナルカヲ定ムル必要アリ、之レヲナサンガ爲メニハ

(甲)、*Corydalis Vernyi*, *C. bulbosa*, *C. ambigua* 等ハ如何ナル種ナルカ其近緣ノモノハ如何。

(乙)、支那ニテ本草家ガ目シテ延胡索ト稱スルモノガ何物ナルカ、

(丙)、日本ニ漢種又ハ韓種トシテ輸入セルモノガ何種ナルカ

ノ三ツヲ調査スル必要アリ、

(甲) *Corydalis Vernyi*, *C. ambigua*, *C. bulbosa* 等ハ如何ナルモノナルカ、其近緣ハ何カ、

Corydalis Vernyi ハ第一章ニテ述ブル所ノ如シ、

C. ambigua ハ Chamisso, Schlechtendal 兩氏ガ Linnæa 第一卷五五頁ニテ發表セル種ニシテ、モトカムチャツカノ產ニ附セシ名ナリ、我邦ニハ千島、北海道、樺太等ニ產シ球根アリ、葉ハ二三回三出シ苞ハ全緣ナルカ又ハ僅カニ裂片アリ、其長サ通例花梗ヨリ長シ、之レ亞細亞產ノ *C. bulbosa* ニ最モ近キ種ニシテ其區界タルヤ甚ダ著シカラズ、標品ヲ多ク集ムル程不判明トナル、但シ此形ノモノハコマロフ氏ガ滿洲植物誌第二卷ニ記ス如ク國外ニテハカムチャツカ、樺太、沿海洲竝ニ黑龍江口附近ニ分布ス、故ニ滿韓植物ニ關係ナク、支那植物ニハ一層關係ナキモノナルコト明カナリ、故ニ本論ニテハ敢テ論ズルノ要ナシ。

Corydalis bulbosa ハ Gorter 氏ガ一七六四年 Flora ingrica, appendix ニ始メテ *Fumaria bulbosa* トシテ記載セル歐洲植物ヲ Alph. De Candolle 氏ガ一八〇五年ニ Flore francaise 第四卷ニ改名シテ記述セルモノナリ、亞細亞產ノ所謂 *C. bulbosa* ハ單ニ *C. bulbosa* トシテ發表セル書モアリ (Forbes, Hemsley 兩氏ノ Index Florie Sinensis, Franchet 氏ノ Plantæ Davidianæ, Turczaninow 氏ノ Catalogus plantarum in regionibus Baicalensibus etc, Flora Baical-Dahurie

植物學雜誌第二十六卷　第三百三號　明治四十五年三月二十日

延胡索考

中井猛之進

Nakai, T., What is the "*Engosaku*"?

一、從來附シタル延胡索ノ學名

延胡索ニ學名ヲ當テタルハ FRANCHET, SAVATIER 兩氏ガ一八七九年 Enumeratio Plantarum Iaponicarum 第二卷二七三頁ニ *Corydalis Verryi* ナル新種トシテ發表セルニ初マル、其產地ハ不明ナレドモ多分 Dr. SAVATIER 氏ガ江戶(東京)附近ニテ採收セルモノナルベシト云ヒ且ツ花彙草ノ卷二第十頁竝ニ本草圖譜第七卷二十六、二十七圖ヲ夫レト斷定セリ

明治二十四年八月(一八九一)發行ノ田中芳男、小野職慤共撰有用植物圖說卷ノ二第四〇四ニハ *Corydalis ambigua*, CHAM. et SCHLECHT. ヲ當テ和名「つぶて」ヲ用キテ次ノ如キ說明ヲナス、

ツブテ　延胡索

延胡索科ノ宿根草ナリ享保年間漢種ヲ傳ヘ植フ、大葉小葉ノ二種アリ、又和產モアリ、春月生ジ高サ五寸許、三四月花ヲ開キ五月ニ至リ葉枯ル、其根小塊ヲナス、堀リテ乾シ用フ、

明治三十三年發行矢田部博士ノ大日本植物誌百二十頁ニモ之レト同意ニテ *C. ambigua* ヲ延胡索トセリ、

明治二十七年(一八九四)ニ至リ牧野富太郎氏植物學雜誌第八卷二二六頁ニ「えんごさくノ數品」ト題シ *Corydalis ambigua* ト *C. bulbosa* トノ數品ヲ揭ゲ其中 *Corydalis bulbosa. rotundiloba* MAXIM ヲ「えんごさく」ナリト云ヘリ、翌年(一八九五)松村博士ノ改版植物名彙世ニ出デ n. 989 ニ「*Corydalis Verryi* FRAM. et SAV. エンゴサク、延胡索」トアリ

ノモノニ非ザルベク、著者等ガ拮据此ノ著ヲナセルハ、多大ノ勞苦ト忍耐トノ結果ナリト云フベシ。足ラザル所、謬レル所ハ、二版以下ニ於テ之ヲ補正セバ可ナリト云フベキナリ。本文頁數五六八頁。卷首ニハ蘚類群落ヲ示ス寫眞網目版三葉ヲ插ム。定價壹圓六拾錢。（岡村）

◎雜報

○フッカー氏ノ訃

植物分類學ノ泰斗ニシテ英國皇立キュー植物園ノ前園長タリシフッカー氏（*Sir Joseph Dalton Hooker*）ハ昨年末九十四歲ノ高齡ヲ以テ逝去セラレタリ、氏ガベンサム氏ト共ニ所謂ベンサム、フカッー式ノ分類ヲ建テタルハ吾人ノ熟知スル所ナルガ尙ホ世界各地方ノ植物誌殊ニ印度植物誌ノ如キ大著述ヲナシテ學界ニ貢獻セラレタル所極メテ多ク然カモ晩年ニ至ルモ尙ホ研究ヲ廢セズ今回モ世界ノ鳳仙花屬ノ研讀中逝去セラレタルモノナリト云フ誠ニ學界ノ爲メ深ク惜ムベキナリ吾人ハ茲ニ謹ンデ哀悼ノ意ヲ表ス

○ワーミング教授ノ退任

丁抹コッペンハーゲン大學教授ニシテ且ツ植物學博物館及ビ植物園ニ長タリシワーミング教授ハ今回老年ノ故ヲ以テ昨年末ニテ其任ヲ辭セラレタリ尙ホ其後任トシテハラウンキール教授就職セラレタル由

◎東京植物學會錄事

○入會

京都府立農事試驗場綾部分場　（三宅驥一氏紹介）　原田猪之助
茨域縣久慈郡太田町小學校　（齋藤菊壽氏紹介）　郡司文彌
東京帝國大學農科大學　（白井光太郎氏紹介）　辛島臺作
三重縣志摩郡神明村田德島御木本眞珠養殖場　（小南清氏紹介）　野村益太郎

○退會

菊地幸次郎

○轉居

高知縣立第三中學校（安藝町）　勝毛市五郎
東京市小石川區戶崎町七十五番地　千葉芳雄
同　市芝區高輪車町二十七番地　折下吉延
同　市小石川區久堅町十四番地　堀江孝太郎
岩手縣氣仙郡小友村　鳥羽源藏
清國大連市北大山通四番地三ノ一　鈴木力治
兵庫縣加東郡小野町　松島克生

正誤（本誌前號）

頁數	行數	誤	正
二	五	わきまへにやハ	わきまへぬにや
同	十八	「シロクブ」ハ	「シロタブ」ハ
		aga-tama	*aga-tama*
三	四	〔壇〕ハ	〔瑞〕ハ
同	九	*Tume-tsuboki*	*Tume-tsubaki*
五	十一	*Kusu-tabu*	*Kusu-tabu*
同	十六	*Citrus trifoliata* MAKINO	*C. trifoliata* L.
七	三		

ニ四月ノ章ヲ檢スルトキハ多クノ記載ヲ辿リ讀ム迄モ無ク速ニ其名ヲ索メ得ルナリ、卽チ檢索表全體ヲ用ユルノ煩ナク只一部ノミニ依リテ之ヲ索メ得ルハ本書ノ組立ノ特別ナル所ニシテ然モ完全ナルコト本書ノ如キハ未ダ本邦ニ之ヲ見ザリシ所ナリ。初學者ハ之ニ依リテ單獨ニ普通植物名稱ヲ知リ得ベク、既ニ多少植物名ヲ辨ヘタルモノハ其名ヲ以テ本書ノ索引ニ依リ直ニ頁數ヲ見出シ逆ニ記載ヲ辿リ讀ムトキハ兼テ自ラ曖昧ニ思ヒ居々ル名ガ果シテ誤ナリシヤ否ヤヲ確ムルヲ得テ玆ニ初メテ確實ニ植物名ヲ知ルヲ得ベシ

蓋シ本書ハ植物學ヲ學バントスルモノヽ參考ニ適スルハ勿論廣ク一般人士ニシテ他ノ業務ノ餘暇自然界ニ親マント欲スル者ノ必ズ一本ヲ座右ニ置クベキモノナリ、從來本邦ニ於テ普通植物ニ就テ學バントスル者ハ概ネ科名ト種名トヲ記臆スルニ止メ偶々其植物ニ就テ稍々確實ナル智識ヲ得ント欲スル者アルモ參考書ノ記事複雜ナルカ或ハ簡單ニ失セルカ若クハ內容ガ全般ノ植物ニ及バザル等ノ爲就レモ普通一般ノ植物ニ就キ學バントスル者ノ爲ニ便ナラザリシハ殊ニ普通敎育ニ從事シテ繁忙ナル間ニ植物學ヲ修メントスル者或ハ中學、師範學校等ノ學生ニシテ多クノ他ノ學課ヲモ學ベル者ガ短時間ニ周圍ノ植物ニ就テ知ラント欲スルガ如キ場合ニ於ケル缺點ノ一ニシテ余輩ノ窃ニ遺憾トセシ所ナレバ玆ニ組立ノ斯ノ如クナル本書ノ出版ヲ見ルニ至リタルハ吾人ノ福音ト謂ツベシ

頁數百八十六、卷末ニハ索引ノ外「術語ノ解」三十頁ヲ附セリ大サハ「ポケット」ニ携帶スルニ便トシ製本亦頗ル丁寧ナリ然モ定價金三十錢ナルハ甚ダ廉ナラズヤ余ハ本書ノ普及ニ依リテ國民一般ガ此後植物ノ種屬ニ關シテ確實ナル智識ヲ得ルニ至ルヲ想ヒ本書ノ出版ハ本邦植物學界ノ爲慶賀スベキ事ナリト爲スナリ（川村）

飯柴永吉、植松榮次郎、加藤鐵次郎共著

○普通日本蘚類圖說　成美堂發行

三六版、ポケット入レノ小冊子ナリ。先ヅ總說トシテ、蘚類ノ位置、蘚類ノ發育史、蘚類一般ノ形態、邦產蘚類ノ種類、蘚類研究上ノ注意、採集上ノ注意、蘚類ト苔類トノ區別、蘚類研究ニ關スル參考書等ニツキテ簡單ニ記述スルコト、二十七頁ニ渉リ、次ニ各論トシテ各綱目ニツキテ、簡單ナル特徵ヲ擧ゲ、草木圖說式ニ左ノ頁ニハ圖ヲ、右ノ頁ニハ說明ヲ記シ、各科各屬ニ渉ツテ、圖說スルコト百七十四種ニ上ル。卷末ニハ學名和名ノ索引ヲ附シ、用意周到ヲ致セルヲ見ル。唯憾ムラクハ、往々記文ニ誤謬アルト、圖版ノ餘リニ簡單ニシテ初學者ガ彼此ノ識別ニ迷フコトナカランカノ疑アルモノナキニシモアヲザルコトナリトス。然リト雖モ斯カル著述ハ至難ノ業ニシテ、何人モ一時ニ完美セルモノヲ編纂スルハ、容易

景觀ニ就キ增補シ其他全部寄生ノ例、藻根、蘭類ノ根ニ菌類ノ共生現象等ヲ述ベ群落ノ新成ニ就キクラカタウ島火山破裂後ノ狀況水藻ト動物トノ共生ノ狀白蟻ガ菌園ヲ造成スル樣等ヲ記シ植物ノ擬態ノ諸例ヲ擧ゲタリ

第九章ニハ一定ノ種類ノ生長上ニモ個體ノ差異アルコトノ新事實ヲ述ベ更ニケテレー氏曲線ノ項式ニ就キテ詳述シ該曲線ノ應用ニ關シ數多ノ新實例ヲ引證シテ之ヲ說明セリ又斯ク個體間ノ差異ヲ討究スルトキハ從來一種ト認メラレタル者モ其實數多ノ原種ヨリ成ルコトヲ知リ得ルコトヲ敎エ且園藝植物ノ眞ノ改良ハ人爲淘汰ニノミ憑リテハ遂ゲ難キコトヲヨハンセン氏ノ所謂系統培養試驗ノ方法ヲ擧ゲテ說明セリ「遺傳」項中ニハド、フリース氏ノ細胞間「パンゲン」說ヲ補ヒ適應說ノ條下ニハ菌類ニハ能ク特異ノ適應性狀ヲ失ハザル者アルコトノ例ヲ加ヘ「偶然變化ノ諸實例」中著者幷ビニレーマン、レーデル中原諸氏ノ發見シタル野生植物ノ自然ノ變化幷ビニマッシーニ氏等ノバクテリアニ就テノ觀察ヲ述ベ其他原種ノ倍數ノ染色體ヲ有スル偶然變種アルコトヲ說キ氣候ノ影響ニ依リテ植物ノ畸形ヲナシ蟲害ガ帶化ノ因ヲナスコト等ヲ補ヒメンデル氏法則ノ項中前版ニ用キタル現在性、潛伏性ナル術語ヲ强性、弱性ニ改メ且該法則ニ就キ更ニ解說ヲ加ヘテ單性、三性、多性ノ雜種現象ヲ敘述セリ

第十章ニハ培養植物ノ起源、食用植物ニ就キ數多ノ新例ヲ加ヘ護謨ヲ採取スル植物ノ種類幷ビニ其栽育ノ狀況ヲ記シ香油、有用木材ノ種類ヲ述ベ又著者ガ多年やまざくらノ花性ノ變化ニ關シ實驗觀察セラレタル事項ヲ詳記シはなしやうぶノ變種ヲ追加シ園藝植物ノ改良ニ關シバーバンク氏ノ從來施行セル「選拔淘汰法」、「種類ノ探索」ニ就キ其效績ノアル所ヲ敘シ穀類ノ改良ニ及ビニルソン氏ノ方法ヲ擧ゲ熱帶農業ノ特徵ト其狀況ヲ知ラシメ紀念植物ノ保存ニ關シテハ歐米ノ施設ヲ比較對照シテ著者ノ持論ヲ詳說セリ

以上概述セシ所ハ之ヲ前版ニ比シテ增補著シクハ改訂セラレタル諸項ナリトス其詳細ナルコトハ讀者須ラク本書ニ就キテ繙讀セラレンコトヲ希望ス　（服部）

○文部省『普通植物檢索表』

文部省ハ兼テ理學博士三好學氏竝ニ牧野富太郎氏ニ委囑シテ本邦普通植物ノ檢索表ヲ作ラント爲ツ、アリシガ漸ク茲ニ其稿ヲ了ヘテ本書ノ上梓ヲ見ルニ至レリ、

本書ハ草本類約六百種ヲ擇ビ主トシテ開花ノ季節ニ應ジ二月ヨリ十一月ニ至ル十ケ月ニ區分シ各月、章ヲ新ニシテ各々其季節ノモノヽミヲ集メタリ、故ニ本書ニ依ル時ハ其季節ノ月ノミヲ繙キテ最モ容易ニ所要ノ植物名及ビ其記載ヲ見出スコトヲ得ル便アリ、例ヘバ今假リニ四月ニにりんさうヲ採リテ其名ヲ索メント爲ル場合ニハ直

モ亦長ク其他酸素除去ノ場合、器械的障碍、寒冷曝露ノ場合等ニモ各差異アルコトヲ記シ「刺撃感應及ビ傳導」ノ條項ニハ葉ノ横日運動ニ關スルハーベルランド氏ノ學說ヲ詳述シテ諸他ノ學者トノ論爭ヲ擧ゲ「屈氣性」中ニ新事實ヲ追加シ「走化性」ノ條下ニハ柴田、リトフォルス、ブルッフマン諸氏ノ精子ニ關スル新研究竝ビニ變形菌類ノ游走子ニ就キ草野氏ノ實驗シタル事實ヲ增補セリ發光現象ニ關シテハ川村氏ノつきよたけニ於ケルモーリシ氏ノ發光細菌ニ於ケル諸實例ヲ擧ゲ其他ひかりごけ、こがねのみづあかノ如キ射光植物ニ就キテ記述セリ

第三章ニハするひろたけガ能ク乾燥ニ堪ヘ以テ擔子層ヲ保護スルコト又過度ノ水濕吸收ニヨリテ葉肉組織ノ細胞ニ強大ナル膨壓ヲ起シ以テ疣毛ヲ生ジ或ハ化學的作用ニヨリテ同樣ノ異態ヲ生ズルコトアルノ新例ヲ加ヘ又花粉ノ生活力持續期ト乾濕トノ關係ニ就キ諸例ヲ引キ「霧害」ナル一節ヲ設ケテ英京倫敦ノ黑霧ノ害ヲ說キ帶化ノ數例ヲ引キ枝垂、直生、曲生、線化、囊化ノ諸現象ヲ述ベ「雜形」ニ於テハへんるふごとうノ葉ノ異形、こゝやしノ果實ノ變態ヲ擧ゲ斑入、複花、複瓣化生、複化、變性、變色ニ及ビ合著、分裂、瘤生等ノ畸態的變態ヲ詳述セリ

第四章ニ加溫法、麻醉法ニ據リテ花芽ノ生長ヲ促ガシ得ルコト花ノ返リ咲幷ビニ外圍ノ影響ニ因リテ諸種ノ花ノ變化スルコト有性生殖ノ條下ニハ植物ニ對スル自花受精ト他花受精トノ優劣ハ簡單ニ決スベキ者ニ非ズシテ其間ニ自カラ種々ノ階級アルベキヲ說ケリ雜種ノ形成ニ就キテハ諸學者ノ實驗觀察ノ推移ヲ概述シ受粉及ビ受精ニヨリテ花部ノ種々ニ變化スルコト竝ビニ減數分裂ノ狀態ヲ詳述シ「單爲生殖及單性生殖」ノ項下ニハ兩者與ニ體的ト生殖的トノ區別アルコトヲ記シテ之ニ關スル諸學者ノ新研究ヲ引證シテ該現象ヲ詳論シ其他無核卵生殖、單性結實ニ就テノ例ヲ敘シ「雌雄性別ノ原理」ニハ前定其定、後定ノ三學說ノ論據ニ就キテ吾人ノ趨向ヲ知ラシメ章末ニハ「菌類ノ胞子ノ散布」ノ一項ヲ設ケテ其種類ニ應ジテ種種ノ異例アルコトヲ列擧セリ

第五章ニハ被子門ニ關スル事項ヲ改訂シ植物系統ノ發達ヲ說キテ化石植物ノ保存ノ狀態竝ビニ地質學時代トノ關係ヲ詳論セリ

第六章ニハ樺太及朝鮮ノ植物區系ノ有樣ヲ敘シ他國ノ植物區系ニ就キテハ南清ヨリ東印度諸島ヲ經テヒマラヤニ到ル概觀ヲ增補セリ

第七章ニハ水生植物群界中ニ「プランクトン」ノ定期的變化ト其移動ノ現象トヲ述ベ更ニ「浮芝」及ビ「浮島」ノ成生スル狀態泥炭、腐泥、石炭、腐殖質等ノ形成サルヽコトヲ記シ菌藻群落中ニハ新タニ知ラレタル鐵バクテリアノ類ヲ加ヘ海濱、砂地ノ植物ノ群生ノ狀ヲ敘シ

第八章ニハ、我國ノ山林竝ビニ熱帶地方ニ汎キ樹上植物

短ハ主トシテ種皮ノ特性ニ依ル者ナルコト濕潤法ヲ施シテ冬芽球根球莖等ノ生長ヲ促進セシメ得ルコト電流傳導ニヨリテ植物ノ發生ヲ盛ナラシムル所謂電氣培養ナル者ハ尙未ダ研究ヲ要スルコト等ヲ記シ植物體ノ延伸成長ノ速度ニ就キテ郡場氏ノ新研究ヲ補ヒ落葉前葉色ノ變化スルハ葉綠素ノ分解シテ葉脈ヲ轉流スルニアルコト開花後花瓣ノ脫離スルハ著生部ノ細胞列ノ膨壓ノ增大スルニアル者ナルコト熱帶地方ノ如キ氣溫ノ殆ンド一定シタル所ニ在リテモ季節風ノ方位ノ變化ニ因リテ海藻ノ發生ニ周期アルコト地下植物ガ越年ヲ爲サンガ爲メニ特異ノ收縮根ヲ生ジ若シクハ沈條ヲ出シテ深ク地中ニ竄入スルコト普通ノ草木ニテモ冬眠ハ必ラズシモ缺クベカラザル者ニ非ズ又植物ノ壽齡ニハ朝ニ發生シ夕ヲ待タズシテ生涯ヲ終ル者ト數百年數千年ヲ超エテ猶且生存スル者アルノ例ヲ擧ゲ不等葉ノ成生ハ植物ノ種類ニ應ジテ自ヅカラ其原因ヲ異ニスル者ナレドモ日光、重力、營養ノ影響其他葉片相互間ノ關係等皆與ツテ力アルコト傾斜セル枝幹ハ偏傾性肥大生長ヲナシ根モ亦土中ニ橫ハレル者ハ敢テ異常ナケレドモ之ヲ地上ニ露出セシムレバ其本質ハ次第ニ偏傾性ヲ現ハスニ至リ同一種若シクハ同一變種モ場處、季節、雌雄ノ性別ニ由リテ全ク別個ノ形態ヲ呈シ以テ二形性ヲ現ハスコト其他癒合組織ノ形成ト濕度トノ關係幷ビニ海藻ノ如キ隱花植物ニハ生理的再生若シクハ補充的再生機能アルコト又近頃ノ研究ニ據レバ葉脈表皮モ亦再生スルヲ得組織再生ハ必ラズシモ同種類ノ組織ヲ限ル者ニ非ズシテ一ノ組織ヨリ種々ノ他ノ組織ヲ發生シ得ルコトノヘルトヴィヒ氏ノ考說ハ諸他ノ學者ノ實驗的證左ヲ得タルコト等ヲ記述シ「接生」ノ項中ニハ接臺ト義枝トノ間ニハ「アルカロイド」ノ如キ特殊ノ物質ノ一方ヨリ他方ニ移流スルノ作用アリ又斑入リ若シクハ白化ノ如キ接臺ノ特徵ハ義枝ニ傳ハルコトアリテバウル氏ノ實驗ニ據レバ該現象ハ一種ノ毒素ノ作用ニアルコトヲ記シ「接木雜種」ナル奇現象ニ就キテハウィンクレル、バウル兩氏ノ實驗ノ結果ヲ詳述シテ種々ノ植物「キメラ」ノ例ヲ擧ゲ周緣「キメラ」ト區分「キメラ」トノ形成ノ起因ニ關スル考說ヲ細論セリ

第二章ニ新タニ增補セラレタル事項ハ禾本植物ノ開花ノ機轉むじなもノ觸毛ノ運動竝ビニ絲狀綠藻ノ觸接ニ因リテ附著體ヲ生ズルコト莖ノ自伸性枝ノ斜向性ノ變化等ノ他ニ器官ノ基脚部ガ捻曲シテ外向シ以テ「外向性」ヲ現ハスコトヲ述ベ葉ノ位置ヲ變轉センガ爲メニ葉柄ノ形態ニ種々アルコト屈地性及屈日性ノ反應ハ大氣中ニ少量ノ石炭瓦斯ヲ含メルニヨリテ著シク變化シ菌傘ノ同反應ハ光線ニヨリテ明カニ左右セラルヽ者ニシテ又近時大野氏ノ研究ニテ證明セラレシ如ク該刺擊作用ノ潛伏時間ニ關シテハ刺擊感受時間ノ長キニ從ヒ反應機能ノ持續スル時間

○木犀及つばきノ俗名ニ就テ

松田

植物ノ漢名中木瓜、木蘭、木芙蓉ノ如キハ木ノ字ヲ用フル由緣ホド推知スルヲ得レドモ木犀ノ名ハ何故ニ起リタルカ考ヘ難カリシニ偶、河野鐵兜翁ノ著撮壤ヲ見ルニ『木犀ノ犀ハ葉ノ厚キヲ形容シタル名ナルベシ東坡ガ山茶ノ詩ニ葉厚有稜犀甲健トアルニテモ考合スベシ』トアリ木犀ノ名ノ起リハ此ノ如クナルベシ

同書又云『貝原損軒つばきヲ厚葉木ノ上略トイヘルモ同ジ』云々卽つばきノ名モ葉ノ纖質ヨリ出タルニテ木犀ノ漢名ト其趣ヲ一ニス大和本草ニハ山茶ノ條ニ其葉厚シあつばきト云意ナリト明記シアリ之ニ因テ案ズルニ吾人ノ屢口ニスルつはぶきノ名ハあつばのふきト云フ意ナルベキ歟

○『廬山植物』ノ項ニ追加ス

松田

昨年十二月發行ノ本誌所載『廬山植物ニ就テ』ノ中ニ其山ノ高度ハ富士山ノ半ヲ超エザルベシトノコトヲ記シタルニ之ニ付キテ會員黃以仁君ヨリ書ヲ寄セテ報ゼラル、所アリ左ニ抄錄シテ其芳意ヲ感謝ス

廬山高千八百M。約合日本尺度(中國尺度相近)六千尺。比諸華山、泰山、日本箱根之神山爲高。而比嵩山、終南、太白、日本日光之男體、白根爲低。而適約富士山之半。下略

◎新刊紹介

○三好博士著『最新植物學講義』下卷

曩キニ上卷ノ刊行セラルヽヤ本誌第二百九十四號ニ於テ之ヲ前版ニ比シテ增訂セラレタル事項ヲ紹介シタリシガ未ダ漸ク數月ヲ閱デズシテ下卷現ハレ浩瀚ナル大著玆ニ完成スルニ至レリ之ヲ前版ニ較ブルニ頁數ニ於テ四百有餘ヲ增加シ插繪圖版ノ新タニナリシ者頗ル多ク敍事益精細トナリ最近ノ學說論據擧ゲテ悉サヾルナシ玆ニ前號ニ續キテ增訂セラレタル概要ヲ擧ゲン

第一章ニ種子發芽ノ狀態ヲ記シ胚ノ發生ハ必ラズシモ貯藏養分ニ限ラズ人工ニヨリテ之ヲ遂ゲシムルヲ得ルヲ述ベベロニカ、ドロセラノ類ノ種子ノ發芽ニハ日光ヲ要シくわゐ、おもだか等ノ種子ニテハ泥土中ノ特殊ノ化學的作用ニ因リテ其萠發ヲ促カサルヽ者ナルコトヲ擧ゲ又すなごせう屬ノ種類ニテハ二枚ノ子葉ノ中一葉ノミ柝出シ他葉ハ種皮內ニ殘リテ胚乳ヲ吸收スルノ用ヲ爲シ以テ双子葉間ニ生理的分業ヲ營ム者アルコト種子ノ生活期限ニ關シテハエワート、ベッケレル兩氏ノ實驗ニ徵シテ其長

ハ二三顆ヲ常トシ他ハ能ク成長セズシテ止ムモノ多シ

○葉柄卷鬚ノ代用ヲナス植物ノ一例

牧野富太郎

葉柄ノ卷鬚ノ代用ヲナシテ他物ニ纏絡スル植物ニせんにんさう屬(*Tenatis*)ノ諸種アルコトハ既知ノ事實ナリ而シテ之レニ類スル働作ヲナスモノニなす科ノひよどりじょうご(*Solanum lyratum* THUNB.)アリテ亦其一例ニ數フルヲ得ベシ卽チ同植物ノ葉柄ハ往々其基部ヲ以テ一回近接セル他植物ヲ纏絡シテ之ヲ把持シ以テ蔓體ノ攀登スルヲ援ク

○やのねぐさ(*Polygonum nipponense* MAKINO)ノ支那ニ産スルコトニ就テ

松田

此植物ハ本誌第十七卷一二〇頁*Polygonum hastato-sagittatum* MAKINO, *β. latifolium* MAKINO ノ名ノ下ニ牧野富太郎君ニ因テ詳細ニ記載サレタリ其後今ノ學名ニ改メラレタルモノニシテ中井猛之進君ガ同二十三卷四二〇頁ニ日本ノ蓼科植物ヲ記サレタルトキニモ亦此改定ノ名ニ遵ハル其他一二ノ異名アリ此種ハ對馬、周防、土佐、甲斐、相模、武藏、常陸等ニ産ス陸奥ニモ此種著クハ極近似ノ品ヲ産スルコト知ラレタリ其種名ノ示ス如ク日本ニテ始メテ發見セラレタル種類ナルガ近頃本多厚二君ノ採取ニ係ル浙江省杭州ノ植物中ニモ此種ト判定スベキモノアリ因テ其分布ハ我九州ヨリ對岸ノ大陸ニマデ及ベルヲ知ルベシ杭州ニテ、二ケ所ニテ採取セラレ且兩地トモ時ヲ異ニシテ兩度ヅヽ採取セラル卽都合四通リノ標品ヲ得ラレタルナリ之ニ因テ察スルニ此種ハ杭州ニハ普通ノモノナルベシ故ニ從來支那ノ植物ヲ記シタル書中ニ未ダ此植物ノ載セラレザルハヤヽ意外ノ感ナキ能ハズ兎ニ角爰ニハ*P. nipponense* MAKINO ナル名稱ハ新ニ支那植物錄中ニ加フベキモノナルコトヲ報ズルニ止ム

○りんねさうノ異品多キコトニ就テ

松田

V. B. WITTROCK 氏ノ著ニ係ル *Linnaea borealis* L., Species Polymorpha et Polychromae ニハりんねさうノ異品ノ多數ヲ載セラレタリト云フ余ハ未ダ原書ヲ見ズ其抄錄ヲ見ルニ異品ヲ「アルファベット」順ニ列記シ*L. borealis f. alba* ニ始マリ*L. borealis f. xanthobasis* ニ終ル約一百六十品ノ多キニ至ル此種ノ本邦ニ産スルモノ卽八ケ岳、白馬山、千島、樺太等ノ採集品ヲ見ルニ其標徵ハ一定セルガ如キモ精細ニ之ヲ檢スレバ異品ヲ區別シ得ベキヤ否ヤ(Intern. Catalogue of Scientific Literature—Botany [1910] ニ據ル)

ノ食トナス而シテ其萠出熾盛ナルヲ以テ今日刈ルモ翌日亦直ニ新葉ヲ萠出シテ復タ刈ルヲ得ベシトノ意ニテ明日(アシタ)葉又ハ明日草(アシタグサ)ト稱スルナリ又之ヲはちぢゃうさうト云フハ八丈島ニ生ズルヲ以テ然カ稱スルニ外ナラズはまうど一名おにうど一名くぢらぐさアリ相似テ非ナリ能ク同處ニ生ジ大小殆ンド相如ク而シテ其分布ハ之ヲあしたばニ比スレバ更ニ廣クシテ南ハ四國幷ニ九州ヨリ更ニ遠ク臺灣ノ地ニ及ブ學名ヲ *Angelica kiusiana* MAXIM. ト云フ

○おほでまりノ花ハ中性ニ非ラズ

牧野富太郎

おほでまりハやぶでまりノ一變種ニシテ家植ノ品ナリ花毬苑モあぢさゐノ如クシテすひかづら科ニ屬シ *Viburn. tomentosum* THUNB. *var. plicatum* MAXIM. ノ學名ヲ有セリ此花一見中性花ノ如シト雖ドモ否ラズ儼然タル兩性花ニシテ雄蘂ヲ具ヘ花粉ヲ吐ク唯其雄蘂ノ存スル時花冠尚幼嫩ナリ日ヲ歷テ花冠充分ニ成長シ以テ純白色ヲ呈スルニ至レバ則チ雄蘂早ク旣ニ落盡シテ痕ナシ是レ其花ヲ瞥見シテ敢テ雄蘂ヲ認メ得ザル所以ナリトス而シテ花冠ノ大形ナルニ似ズ其萼ハ甚ダ微小ニシテ花冠ノ背ニ綠色ヲ呈シ深ク五片ニ分裂スあぢさゐノ花ハ萼大ニシテ花冠ノ觀アリ其花毬ノ美觀ヲ呈スルハ主トシテ此瓣狀萼ノ存スルアルヲ以テナリ而シテ眞正ノ花瓣ハ却テ微小ニシテ殆ンド見ルニ足ラズおほでまりニ在ラバ則チ之レニ反シテ萼小ニ花冠大ナリ然モ此兩花其外觀酷ダ相類ス美ヲ發揮スル、植物ニヨリテ其器官ヲ異ニスルアルヲ見ルベキナリ

○花後直チニ卵子ヲ露出シ熟シテ果實ヲ裝フ本邦植物

牧野富太郎

花了ルヤ心皮直チニ凋萎シテ少シモ生長增大セズ此ニ少シク生長セル卵子(Ovules)ヲ露出シ此卵子日ヲ逐テ生長シ遂ニ成熟シテ宛モ果實ノ狀ヲ呈スルモノ本邦產植物ニ之レアリテ其種子ヲ露呈スルノ狀宛モ彼ノめぎ科ノるゐそふしゃうま(*Caulophyllum thalictroides* MICHX. *var. robustum* REGEL.)ニ於ケルガ如シ卽チじゃのひげ(*Ophiopogon japonicus* GAWL.)おほばじゃのひげ(*O. Wallichianus* HOOK FIL.)のしらん(*O. Jaburan* LODD.)やぶらん(*Liriope graminifolia* BAKER.=*L. spicate* LOUR.)ひめやぶらん(*L. minor* MAKINO.)ハ其品ニシテ或ハ藍色ヲ呈シ或ハ黑色ヲ呈シ或ハ暗藍色ヲ呈シ或ハ黑色ヲ呈スル果實樣ノ球ハ皆總テ其種子タルナリ此等ノ品種ハ元來子房三室ニ分レ每室二卵子ヲ容ルヲ以テ其幼嫩ナル種子ハ合セテ六顆アリテ環列スト雖ドモ其增大シテ成熟スルモノハ或ハタヾ一顆ニ止マリ或

雜錄 ○おほでまりノ花ハ中性ニ非ラズ 牧野 ○花後直チニ卵子ヲ露出シ熟シテ果實ヲ裝フ本邦植物 牧野

○鮮新世以來日本ニ於ケル氣候變遷

小泉源一

中新世ニ於ケル北半球ノ第三紀植物區系ガ如何ニ發展セシカ、第三紀ニ於ケル各地氣候ノ變遷如何、洪積世ニ於テ何故ニ歐洲、北米ガ氷河ニ被レ日本ノ如キハ然ラザリシカ等ノ諸問題ハ地史學的植物地理學上ニモ重要ノ關ハ甚趣味アル事項ナリ、

横山敎授ハ日本ノ第三紀後成世ニ於ケル氣候變遷ノ狀及ビ其之ヲ來タセシ理由ヲ說明セラレタリ、サレバ日本群島ニ於ケル植物區系發展史竝ニ植物各群ノ系統發展史ヲ論ズルニ當リテハ必參考スベキコトナリ

同敎授ハカツテ横濱市ノ南方略十一キ、メ、ニアル一小村落小柴ノ東京灣海岸ニ露出セル淺海成ノ粗粒凝灰砂岩ニ埋藏シタル鮮新世產化石ヲ研究サレシニ軟體動物七十一種ノ內三十一種ハ生存種ニシテ廿九種卽チ四十パーセントハ全ク絕滅種ニ屬スルヲ見タリ依テ此後ノ發見ニヨリテ二十パーセントトナリタリトスルトモ此小柴淺海成層ハ鮮新世中期以前ノモノナルコトヲ知ルト同時ニ之等化石全體ハ頗ル北方種ヲ含有スルコトニ就キ甚注意ヲ曳キタリ。之ヲ以テ同敎授ハ此時代ニ於テ此地方海水ノ溫度ハ可ナリ低溫ナリシコトヲ知レリ、然ルニ東京附近ノ上部鮮新層ニハ却テ北方種ノ僅少ナルハ之亦大ニ注目スベキコトナリ。此ニ又房總半島野間地方ノ洪積層ト稱スル蛸蜘床ヲ研究サレシニ果シテ洪積層ニシテ其埋藏セル化石三十五種ノ軟體動物中十四種ハ熱帶產ノモノニシテ蛸蜘亦然ルヲ知レリ此ニ於テ此時代ハ又熱帶的性質ヲ帶ビシ氣候ナリシコトヲ知ル。如此洪積世ハ氣候熱リシト雖モ當時氷河地方ニ間氷期及ビ後氷期ノアリシガ如クニ日本ニモ之ニ相當スル間蛸蜘床期及ビ後蛸蜘床期ノアリシコトモ證シタリ。依テ中部日本ニ於テハ鮮新世ノ初紀以來氣溫漸々增加シテ洪積世ニ於テ其最大ニ達シ其後再ビ漸次下降シテ現今ニ至レルモノナリト結論セラレタリ。然ラバ中新世ニ於テハ如何ナル氣候ナリシカト云フニ之レニ對シテハナトルスト氏ノ日本中新紀植物化石研究ヲ曳用シテ當時ノ氣溫ハ現今ヨリ低溫ナリシトナス、一步進テ第三紀前半ノ氣候ハ如何トナレバ我日本ニテハ此時代化石材料僅少ニシテ考察シ難シト云フ。而シテ以上氣候變化ノ原因ニ就テハ亦地軸變位卽チ極ノ移動ヲ以テ說明セリ。

○あしたばノ意義如何

牧野富太郎

Angelica utilis MAKINO. ハ繖形科ノ一種ニシテあしたば一名あしたぐき一名はちぢゃうさうト呼ブモノナリ伊豆七島ヨリ房州、相州ノ南部海邊ノ地ニ亙リテ生ズル粗大ナル草本ニシテ伊豆七島ノ島民ハ其葉ヲ刈リ採リテ日常

花ヲ有シソノ雌花ハ嘗テ *Monachanthus* 屬トシテ記載セラレ兩性花ハ *Myanthus* 屬トシテ記載セラレ而シテ雄花ハ *Custalum* 屬トシテ記載セラレタリ、此ノ如ク同一種ノ植物ガ花ノ三形花ノタメニ三屬ノ標準種トシテ記載セラレタルガ如キハ頗ル奇ト云フベシ、

○れんぷくさうノ分類學上ノ位置

小泉源一

れんぷくさうノ分類學上ノ位置ニ就テハ之ヲ研究セシ各學者ノ間ニ意見ノ一致セザルモノアリ。一七三五年リンネ氏(C. v. Linné)始メテれんぷくさう屬(*Adoxa*, L.)ヲ設ケ一七五三年 *Adoxa moschatellina*, L. ノ學名ヲ命ジ翌年之ヲ八雄蕊綱、四雌蕊目(*Octandria, Tetragynia*, L.)ノ内ニ容レタリ。其後各學者見解ノ變遷ヲ擧レバ一七六三年アダンソン(Adanson)氏ハ本屬ヲ仙人掌科ト虎耳草科トノ間ニ置キタリ。一七九一年ジュッショー(Jussieu)氏ハねこのめさう屬近似ノモノナリト云ヘリ。一八三〇年デカンドル氏(De Candolle)ハ五加科ノ内ニ容レタリ。一八三八年マイスネル氏(Meisner)ハ忍冬科ノ内ニ容レタリ。一八四六年レーペル氏(Röper)ハにはとこ屬類似ノモノナリト云ヘリ。一八五八年アガー氏(Agardh)ハ毛茛科ノ内ニ容レタリ。一八七四年ツェラコースキー氏(Celakovsky)ハ始メテ獨立セル一科ヲナスト云ヘリ。一八七六年アイヒラー(Eichler)ハ虎耳草科ニ一八七八年ニハ忍冬科ニ容レタリ。一八七九年ドルーデ(O. Drude)氏ハ亦虎耳草科ニ容ルベキモノトセシガ一八八四年ニハ五加科ノにんじん屬(*Panax*)類似ノモノトセリ。一八九一年フリッチ氏(Fritsch)ハエングラー、プラントル兩氏ノ植物分科大全ニ於テ獨立セル一科トセリ。一九〇九年ラゲルベルヒ氏(Lagerberg)ハ又にはとこ屬近似ノ植物トナセリ。一九一〇年スツューム氏(K. Sturm)(Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich, 55 Jahrg. Heft 3, 4.)最近ノ研究ニヨレバ本屬ノ特徴ハ一 ☿ v. ∔ $K_{(5)}$ $C_{(5)}$ A_5 $G_{(n)}$ $(n=5$ v. $4)$ ノ原花式ヲ有シ、二一枚ノ珠皮ヲ有シ、三多クハ苞及ビ小苞ヲ缺除シ、四蕚ハ種種ニ退化セントシ、五雄蕊ハ二分シ且ツ内輪ノ痕跡ヲ示シ、六蜜腺ハ無柄ナリ、七子房ノ各室ニハ一ケノ胚珠アリテ倒生ナリ、珠孔ハ内方ニアレドモ後側方ニ漸移ス、而シテ今後生花類ノ子房下位花ノ原的ナル花ヲ ∔ $K_{(5)}$ $C_{(5)}$ A_{5+5} $G_{(3)}$ トスレバれんぷくさうノ花ハ diplostemony 性ヲ全ク失ズ、心皮ノ數亦左程 oligomery ナラズ合生子房亦僅ニ下位ナルコト等ノ事實アルヲ以テ頗ル原花ヲ去ルコト遠カラズ、之ヲ以テ本屬ハ別ニ一科ヲナシ忍冬科ノ前位ニ置クベキモノナルト同時ニ初生花類ニアリテハ虎耳草科及ビ繖形花科ニ遠キ關係アリト云フ。

ヒ居タリキ、頃日愛知縣立高等女學校博物室ニ同校教諭丸山龜之助君ノ採集所藏セラルヽ標品ヲ種々見ル中ニ余ハ偶然同君ノ鄉國ナル信州東筑摩郡東山ニ於テ採集セラレタル *Cryptotaenia sp.* ヲ見ルヲ得タリ。之レ卽チ *Canadensis*, Dc. ニシテ、みつばぜりト名ヲ附シアレドモトヨリ之ハ非ニシテ全ク別種トス可キモノナリ。余ハ始メテ實物ヲ見其みつばぜりヲ *Cryptotaenia japonica*, Hassk. トスル方ノ適當ナルヲ知レリ。余ガ其標品ノ「ラベル」ニ note シタルハ「*Cryptotaenia canadensis*, Dc. New to the Flora of Japan.」ナリ花ハ複繖花序ニシテ花梗ハ細クシテ柔カク、葉ハ三小葉ヨリ成リ上部ニ於テハ各小葉ハ披針形ヲナシ中央部ニ於テ楕圓狀披針形ヲナシ、葉緣ハ齊正ナル歯牙狀鋸歯ヲ有シみつばぜりニ於ケルガ如ク不規則ナラズ、最下部ノ葉ハ之ヲ缺クヲ以テ小葉柄ニ就キテハ知ルコト能ハズ、從來之ニ和名無キヲ以テ今回之ニみつばぜりもどきノ新稱ヲ與フ、

Cryptotaenia canadensis, Dc.

Nom. jap. Mitsubazeri-modoki(nov.)

Hab. Prov. Sinano: Higasiyama in Higashitikuma-gun(K. Muruyama. 1909. Aug.)

Nov. ad Flor. Jap.

猶前記ノ簡單ナル記載ハ單ニみつばぜり(*Cryptotaenia japonica*, Hassk.)ト區別センガ爲メノミノ標徵ナルヲ以テ單獨ニ適用ス可カラズ、みつばぜりニ似テ複繖花序ヲ有ストノミニテハ時ニみつばぐさ(*Pimpinella diversifolia*, Dc.)ト誤ルノ恐レ無シトセズ其屬ヲ異ニスルヲ以テ屬徵ヲ以テ區別シ得ルモ猶外觀上ヨリみつばぜりもどきノ花序ハ花願ル粗ニシテみつばぐさニ於ケルガ如ク密ナラズ且ツ花梗花軸共ニ頗ル纖弱ナルコトヲ以テ區別シ得可シ又だけぜり(*Pimpinella calycina*, Max.)ノ下部ノ葉ヲ缺ケルモノト誤ル可カラズ

○蘭科植物ノ二形花(Dimorphic forms in the orchidious flowers)

早田文藏

余ハ過日(拾月初旬)高溫室ニ於テ *Renanthera Lowii* Rchb. f ノ盛ニ花ヲツケタルヲ見タリ熟視スルニ花穗ノ長サ約一間餘ナルモノニ拾二個ノ花トソノ基部ニ必ズ二ツノ異ナリタル花ヲツケルヲ見タリ、之レヲ諸々ノ書籍ニヨリテ調ベタルニ之レハ最初ライヘンバッハ氏ニヨリテ此ノ二形花ハ異性ニ基ヅク花ニアラザルコト決定セラレタリ、何ントナレバ兩花共ニ雌雄兩性ニ於テ缺クルコトナケレバナリ此蘭ハ原產地ハボルネオニシテ本邦ニアリテハ其ノ價頗ル高ク現ニ我溫室ニアルモノモソノ價約千圓ヲ越スト云フ、因ニ云フ蘭花植物ニハ往々二形花又ハ三形花ヲ有スルモノアリテ分類學上困難ヲ起ス場合少ナカラズ、卽チ一例ヲ擧グレバ *Castisetum* 屬ハ三形

ン、一般ニ減數分裂ハ胞子ノ生ズルニ先立チテ無性世代ノ植物ニ於テ起ルモノニシテ WINKLER 氏ハ減數分裂ハ無性世代植物ニ於テノミ起リ有性世代植物ニ於テハ決シテ起ラズ、之レ其ノ本性ニシテ若シ或ル生物ノ細胞中只一個ニテモ減數分裂ヲ起スモノアラバ之レ正ニ無性世代ト見做ス可キモノナリト云ヘリ玆ニ於テ MAIRE 氏ハ調停的考案ヲメグラシ世代交番ニ於テ第三ノ時代ヲ分離シテ之ヲ前有性世代（Progametophyt）ト稱セリ、卽チ此ノ前有性世代ナルモノハ2X染色體ヲ有スル融合核ノXナル單數ニ減數スル時代ニシテ變形菌ノ游走子ハ正シク此ノ前有性世代ニアルモノナリ、前有性世代ハ有性世代ト無性世代トノ中間ニアリテ有性世代ト同ジク水中生活ヲナシ其ノ減數分裂ハ一部其ノ生活狀態ニ依テ促サルヽモノナランカ、

游走子ニ次グアメーバ時代ハ單ニ無性的ニ分裂シテ增殖スル時代ニシテ如斯ハ單細胞生物ニ於テ普通見ル處ナリ、而シテ最後ノ原形體ハ生殖的時代ニシテ之ヲ表示スレバ次ノ如シ、

游走子＝減數時代（前有性世代）｝X時代｛（有性世代）｝水中生活
粘液アメーバ＝發育的時代
原形態＝生殖的時代
子囊體（胞子時代ヲ含ム）＝增殖時代｝2X時代｛（無性世代）｝陸上生活

雜錄　○*Cryptotaenia canadensis*, Dc. 我國ニ產ス　成田

如斯ニシテ變形菌ノ發育歷史ハ單數時代（有性世代）ガ系統的ニ原始ナル說ニヨク一致ス可シ

（附記、Vouk氏ノ此ノ論文ノ出デシ後同年六月獨逸植物學會々報第二十九卷第五號ニ於テ JAHN 氏ハ氏ノ先年觀察セシ核ノ接合ハ眞ノ性的接合ニアラズシテ單ニ或ル核ノ敗壞ニ先立チテ起リシ異狀ノ現象ニ過ギザリシヲ知リ進ンデ精細ナル研究ニヨリテ眞ノ核ノ接合ハ曩ニ云ヒシガ如ク子囊體ノ生ズル初期ニ起ルニアラズシテ粘液アメーバガ合シテ原形體ヲ作ル時ニアルヲ報ゼリ、卽チ粘液アメーバノ有スル染色體ハ單數ニシテ原形體ハ已ニ倍數染色體ヲ有スルコトヲ觀察シタリ、而シテ實際單數粘液アメーバガ接合セル所ヲ觀察スルコトハ非常ニ困難ナリト云ヘリ、此ノ研究ニ據レバ原形體ハ已ニ無性世代ニ屬ス可キモノナリ、尙ホ減數分裂等ノ諸問題ニ就キ今後ノ研究ニ俟ツ可キモノ多カラン、）

○*Cryptotaenia canadensis*, Dc. 我國ニ產ス

成田清一

吾ガ國ノみつばぜりヲ *Cryptotaenia canadensis*, Dc. ト呼ブ事ノ非ナルハ松田定久氏ノ且テ述ベラレタル如ク一般學者ノ認ムル處ナルモ *Cryptotaenia canadensis*, Dc *var. japonica*, MAKINO. ヲ用フ可キカ將タ *Cryptotaenia japonica*, HASSKARL. ヲ用フ可キカニ就キテハ多少余ハ疑

HZ 氏ニヨレバ該核ハ「シナップシス」「ヂアキネーゼ」ノ諸期ヲ經テ核分裂トナリ八個ノ複染色體ヲ有シテ其ノ狀恰モ高等植物ノ異型核分裂ニ相當スルモノナルヲ示シ、其ノ娘核ハ各々胞子ヲ形成シテ靜止期ニ入ル、而シテ兩氏共ニ分裂ノ際娘核ニ入リシ染色體ノ數ハ八個ニシテ各染色體ハ恐ラクハ複性ナリト云ヘリ、卽チ染色體ノ減數ハ此ノ分裂ニ於テ起ラズ次回分裂卽チ胞子ヨリ甫ヒ出デタル游走子ノ第一分裂ニ於テ起ルモノナリト考ヘ得可ク其ノ娘核ハ四個ノ染色體ヲ有シ之亦恐ラクハ複性ナリ、卽チ胞子時代ハ八個卽チ十六個ノ染色體ヲ有シ游走子時代ハ四個卽チ八個ヲ有ス可シ、換言スレバ變形菌ハ複染色體ヲ有スル時代非常ニ短ク而シテ游走子粘液アメーバ原形體ハ何レモ單數染色體ヲ有スルモノナリ、(JAHN氏曰ク減數分裂ノ第一第二兩核分裂間ニ胞子ナル靜止期ノ存スルハ變形菌ニ於ケル特別ノ場合ナリ、而シテ接合核ノ直ニ減數分裂ニ入ルコトハ屢々菌類ニ於テ見ル處ニシテ ALLEN氏ノ研究ニ係ル *Coleochaete*（綠藻類）ノ場合ノ如キハ最モ著シキモノナリト、氏ハ一九〇七年變形菌(*Ceratiomyxa*ヲ除ク)ノ減數分裂ニ就キ以上ノ如ク述ベ *Ceratiomyxa* ニ就キテハ胞子生成前二回ノ分裂ヲ經ルコトヲ述ベタルガ其ノ翌年後者ノ誤謬ヲ訂正シテ次ノ如ク述ベタリ、卽チ子嚢體ノ發育ヲ五期ニ分チ其ノ第一期ノ初メニ於テ核ノ接合起リ融合核ハ確實ニ常ニ十六個ノ染色體ヲ有ス、該核ハ「シナプッシス」「ヂアキネーゼ」期ヲ經テ減數分裂ニ移ル、「ヂアキネーゼ」期ニ於テハ複性タル可キ染色體八個ヲ明視スルヲ得、減數分裂ハ只一回ノ分裂ヨリナリ之ヲ經タル娘核ハ八個ノ染色體ヲ有シ胞子ヲ形成ス、該核ハ再ビ二回分裂シテ四分核ノ如キ狀ヲ呈スルト雖モ OLIVE氏ノ云ヘルガ如ク此ノ分裂ノ減數分裂ニ非ザルコトハ染色體數ノ依然八個ナルニヨリテ之ヲ知ル、此等ハ四個ノ粘液アメーバトナリ更ニ各自一回分裂シテ各二個ノ游走子ヲ形成ス、此ノ最後ノ分裂ニ於テモ亦八個ノ染色體ヲ見ルト、)

以上述ブルガ如ク胞子生成前ニ於ケル核ノ接合幷ニ染色體ノ數等ニ就キテハ稍々之ヲ明ニスルヲ得タリト雖モ其ノ減數分裂ノ問題ニ至リテハ今尙暗中ニアリト謂フ可キナリ、減數分裂ノ受精直後ニ起ルノ假定ハ蓋シ正當ナル可ク、PROWAZEK氏曰ク元來減數ナル現象ハ受精ノ結果ニシテ唯其ノ發達中受精ノ前ニ移サレタルモノナリト、變形菌ノ如ク生物ノ發達列中其ノ下位ニ位スルモノニシテ減數分裂ノ受精直後ニ起ルハ寧ロ怪シムニ足ラザル處ナル可シ、今後細胞學的研究ヲ俟ツテ愈々確實ニス可キハ核ノ接合、染色體ノ數、及ビ減數分裂ナリ、

以上ノ細胞學的事實ハヨク前述ノ生態學的觀察ト一致ス可シト雖モ JAHN. KRÄNZLIN 兩氏ノ信ゼルガ如ク染色體ノ減數ノ游走子時代ニアルハ少シク考慮ヲ要スル處ナラ

如ク論述セリ、

變形菌ハ胞子ノ發芽ニ際シテ必ズ水ヲ要シ胞子ヨリ出デタル游走子ハ一乃至二個ノ鞭毛ヲ有シテ水中ニ運動ス、(文獻上二個ノ鞭毛ヲ有スル游走子ヲ報ズルモノナシト雖モV氏ハ *Didymium difforme* ト *D. nigripes* トニ於テ確ニ之ヲ觀察シ疑ヲ入ルヽノ餘地ナシト云フ)、後鞭毛ヲ失ヒテ運動不活潑トナリアメーバ狀ヲナシテ匍匐ス、斯ル現象ハ自然界ニ於ケル狀態トヨク一致スルモノニシテ雨後子嚢體ノ破レテ露出サレタル胞子ハ水滴ヲ得テ玆ニ發芽シ而シテ雨水ノ地中ヘ浸入シ若シクハ蒸發スルニ至ラバ活潑ニ運動セシ游走子ハ只濕氣多キ處ニノミ存在シ遂ニ鞭毛ヲ失ヒテアメーバ狀トナル可シ、如斯アメーバ狀ヲナセルモノハ水分多キ處ニ限ラレ一旦乾燥スルニ至ラバ直ニ胞嚢狀態トナル、此等アメーバ狀ノモノ即チ粘液アメーバノ集リヨリナル原形體モ亦水分ノ存スル處ニ於テノミ存スルモノニシテ STAHL 氏ノ發見ニカヽル原形體ノ積極的向水性ハ其ノ水中生活(濕氣ニ富メル處)ニ適應セルヲ示セルモノナリ、暫時ノ後原形體ハ濕メル處ヨリ匍ヒ出デヽ子嚢體ヲ作ル、而シテ子嚢體ハ濕氣無キ部分ニ於テノミ作ラレ自然界ニ於テハ雨後水分蒸發シテ土地乾燥スルニ及ンデ之ヲ作ル、人工培養ニテハ液體中ニテモ之ヲ作ルコトアリト雖モ之レ異常ノ場合ニ過ギザルナリ、是ニ依テ之ヲ觀ルニ發育時代ハ水中生活ニシテ胞子生成時代ハ陸上生活ナルヲ知ル、卽チ BOWER 氏ノ WETTSTEIN 氏等ノ創意ニ依ルガ如ク生物ノ世代交番ト其ノ生活狀態トハ其ノ間ニ密接ナル關係ヲ有スルモノニシテ一般ニ有性世代ハ水中生活ヲナシ無性世代ハ陸上生活ヲナスヨリ之ヲ察スルニ變形菌ニモ亦世代交番ノ存スルコトヲ推知シ得可シ、而シテ胞子生成時代ノ無性世代ナルコトハ一般ニ胞子ヲ以テ繁殖スル時代ノ常ニ無性世代ニ限ラレ居ルヨリ容易ニ之ヲ解シ得可シト雖モ發育時代ノ有性世代ナルヤ否ヤノ疑問ニ至リテハ細胞學的研究ニヨルニ非ラザレバ到底之ヲ解シ得ザルナリ、

LISTER 氏ハ *Badhamia utricularis* 幷ニ *Trichia fragilis* ノ若キ子嚢體ニ於テ二ツノ核ノ相接シテ瓢形ヲナセルヲ見、之ヲ以テ直接分裂ナリトセシガ其ノ後 KRÄNZLIN 氏モ亦 *Trichia*, 幷ニ *Arcyria* ノ未熟子嚢體ニ於テ大小二種ノ核ノ存スルヲ發見シ大核ハ二核ノ融合シテ出來タルモノナルコトヲ知リタリ、氏ハ又 LISTER 氏ノ見シガ如キ瓢形ノ核ヲ見 ZACH 氏ト共ニ之ヲ以テ二核ノ接合セルモノナリトシテ直接分裂ノ說ニ反對セリ、其ノ狀恰モ菌類ニ於ケル場合ノ如クニシテ卽チ核ノ接合(Karyogamie)ト見做シ得タリ、之レ實ニ變形菌ノ受精現象ニ關シ重大ナル發見ナリト云フ可キナリ、

JAHN, KRÄNZLIN 兩氏ノ研究ニヨレバ如斯融合核ハ當初膨大ノ形ヲ有スト雖モ直ニ縮小シテ染色質網ヲ示ス、JA-

シテ十四種(皆固有種ナリ)ヲ有ス亞米利加ノ東岸地方歐洲ト同ジク四種ヲ有シ而シテソノ最モ分布上興味アルハ亞米利加東地方ニ限ラレテ西地方ニハ絶無ナルトコロノ此ノ四種ハ歐洲產ト同一亞屬二屬スル植物ナルコトナリ著者ハ此ノ事實ヨリ推論シテ恐ク此ノ四種ハ中央卽チ該屬ノ本源地ヨリ東西ニ分カレテ分布セシトコロノ西ノ枝ノ最西端ナルベク而シテ又該四種ハ已ニ地質的時代ニ於テ未ダ西歐洲ト亞米利加洲トノ中間ニ之ヲ連結シタル大陸ノ存在セシ時ニ已ニ東部亞米利加ニ立脚地ヲ定メタルモノナラントナシ且ツカラリー群島ニアル只一種(固有種)ハ恐クハ上述ノ地質的時代ノ遺物ナルナラントカト推測セリ

(B. HAYATA)

○リニエ氏『ベネティテス、モリエレイハ單爲生殖ヲナセシナラン』

Lignier, O., Le *Bennettites Morierei* (SAR. et MAR.) LIGNIER se reproduisait probablement par parthénogénèse. Bull. de la Soc. Bot. de France, t. LVIII, 1911.

著者ハ此化石植物ノ種子ノ連續セル截片ニ於テ劃然タル双子葉狀ノ胚ガ常規ノ發育ヲナセルヲ確定セリ。然ルニ其球心嘴(Bec micellaire)ノ頂上部ハ化石トシテ組織ノ保存完全ナルニ係ハラズ、如何ナル受精器官(花粉或ハ花粉管)ノ通過セル痕跡ヲ證スル事能ハズ、卽チ其組織破壞若シクハ移動セル事決シテナシ。尙ホ之ヲ確證スルハ、其球心嘴頂上ノ直下ニ位セル花粉室ノ收縮セル組織內ニ決シテ花粉ヲ見止メザル事實是ナリ。受精セズシテベネティテス、モリエレイノ胚ガ發育シ得ルトスレバ卽チ恐ラク單爲生殖ニヨリシナラン。其花粉室ハ退化シテ大芽胞上ニ單ニ痕跡ヲ止ムルニ過ギズ。此種ハ下白堊層ノ上部ヨリ產出セシモノナレバ侏羅紀ニ於テ繁榮ヲ極メシベネティテス類ノ最後ノ代表者ナリ。依ッテ吾人ニ其單爲生殖ノ習慣ハベネティテス類絶滅ノ主ナル原因ニ在ラザリシヤヲ思ハシム。尙ホド・ボーシャン(DE BEAUCHAMP)氏モディノフィルス屬(*Dinophilus*)ノ單爲生殖ノ習慣ハ以テ其屬退化ノ一原因ナルヲ證セシニアラズヤト。

(Y. SUZUKI.)

◎雜　錄

○變形菌ノ世代交番ニ就テ

桑　田　義　備

DR. VALENTIN VOUK氏ハ夙ニ此ノ問題ニ著目セシガ昨年四月墺國植物學雜誌第六十一卷第四號ニ該問題ニ就キ生態學的立脚點ヨリ細胞學的研究ノ文獻ニ徵シテ大要次ノ

thienne Fasc. XXXVI 43 Pages.

植物分科中十字形科竝科薇形科ばら科中ノ或ルモノ唇形科乃至いちはつ科、禾本科ノ多クノモノハ各屬ノ區別往往判然セズシテ分類學者ヲ苦シムルコト屢々ナリ斯ル場合ニハ學者往々普通ノ形態學上ノ區別判然タラザルヲ以テ、已ムヲ得ズ解剖學上ノ分別又ハ地理分布ニ從ヒ又ハ甚シキトキハソノ屬ノ設立ニ關スル歷史ヲ借來リテ屬ヲ分ツノ標準トスルコトアリ此等ハ最モ苦シキモノヽ中一層甚シキモノナリ此ノ如キ分類學ノ著述ノ一二ヲ擧グレバウエットスタイン氏ガこゞめぐさ屬及ビりんだう屬ヲ分ツニ當リテ氣候ノ感應ヨリ生ジタル特徵ヲ取リ來リタルガ如キ又ハ *Pancratium* 屬ヲ *Hippeastrum* 屬ヨリ分ツニ當リテソノ產地ノ新舊兩世界ニ分カルヽコトヲ借リ來リタルガ如キハソノ好例ナリ

菊科植物ニアリテモ又此ノ如ク、屬門特徵甚ダ不完全ニシテ往々科學的分類ト云フヨリモ寧ロ習慣的ト云フ方適當ナルコト往々ナリ

著者ソノ一例トシテ先ヅ *Gnaphalium* 屬ヲ研究シテソノ屬ノ特徵ヲ指摘シ且ツ地理分布ニ說及セリ

著者ハ全體ニテ十九種十二變種ヲ擧ゲタリソノ中日本產（內地及ビ臺灣）トシテ左ノ五種ヲ揭ゲタリ

1. *Leontopodium microphyllum* HAYATA.
2. *Leontopodium japonicum* MIQ.
3. *Leontopodium discolor* BEAUVERD.
4. *Leontopodium alpinum* CASS. var.γ *Fauriei* BEAUVERD.
5. *Leontopodium leontopodioides* BEAUVERD.

該屬ノ總數十九種ノ分類ニツキテハ已ニフランシー氏ガ論ジタル如ク頗ル奇ト云ハザルヲ得ズ卽チ東經貳拾貳度ト同六拾八度（但シ巴里本位）トノ中間ニハ大ナル中絕帶（La lacune）アリ歐亞兩洲ヲ分ツ今著者ノ分布ニ示セル表ニツキテ見ルトキハ西部支那ニハ七種ヲ產シ東方ニ行クニ從ヒテソノ數ヲ減ジ日本本土ニテハ只ニ二種トナリテ止ム西部支那ヨリ西ニ行クニ從ヒテ漸々ソノ數ヲ減ジテ遂ニ西歐アルプスニ只一種トナリテ止ム（抄錄者云フコノうすゆきそう屬ノ分布ハフランシー氏ガ西部支那種屬始源說 Foyer des genres à la chine occidentale ヲ憶カムルノ一例證ナリ）著者ハ該屬ハ亞米利加ニハ絕無ニシテソノ代リニ *Eucaltia* 屬アリ該屬ハニユーギランドニアル *Leucogenes* 屬ト *Leontopodium* 屬トノ中間ニアルモノナルコトハ頗ル面白キ事實ナリト云ハザルヲ得ズ

次ギニ著者ハ *Cicerbita* 屬ノ地理的分布ニ論及シ總數五十一種ヲ擧ゲタリ（日本產ハ一種モナシ）該屬ハ總テ北半球ニ分布シ廻歸線ト北極圈トノ中間ニ分布ス著者ガ論及セシガ如ク分布ノ表ニツキテ見ルトキハ該屬ノ本源地トシテ二中心アルモノナルガ如シ一ツハ小亞細亞ニシテ十六種（ソノ內十五種ハ固有種）ヲ有シ他ハヒマラヤ地方ニ

新著　○ボーバル氏「うすゆきそう屬及ビシセルピタ屬ノ地理的分布ニ就キテ」

外部組織ヲ相伴ヒ中軸髓ヲシテ空洞ナラシメ、其内面ヲ限界スルニ軸ノ表面部組織ヲ以テスルニ至ル。是レギヤン・ヴォーン氏ガ嘗テ *Onoclea*, *Cystopteris* 及ビ *Aneimia* ノ諸屬ニ於テ記載セシ所ナリ。*Plagiogyria* 屬ニ於テハ其表面組織ノ浸入ガ髓ニ達スルニ至ラザルモ、尚ホ同樣ナル構造ヲ呈ス。此等構造ハ匍匐習性ニ密接ナル關係ヲ有ス。而シテ叢生葉ヲ支持スル軸ノ直立シ且ツ強大ナルハ適應上得タル二次的ノ習性ナリト解セラル。*Onoclea* 及ビ *Plagiogyria* ノ二屬ニ於テハ其個體ノ發育ノ初メニ於テハ匍匐狀ヲ呈スルモ、後ニ叢生葉ヲ有シ且ツ直立狀態ヲ呈スルニ至ル。然ルニ *Cystopteris* 及ビ *Aneimia* ノ二屬ノ如キハ終生其匍匐狀態ヲ維持ス。要スルニ軸ノ空洞構造ハ其植物ノ系統的發育中ニ大ナル軸ノ必要ニ迫ラレ、直ニ其要求ニ應ジ能ハザリシ結果ナリ。或ル種ニ於ル直立習性ノ適應ハ叢生葉ヲ支持スルニ必要上、太ク且ツ強固ナル軸ヲ生ズルニ至リシナリ。

羊齒植物ノ髓ノ起元ガ圓柱ノ内外孰レノ組織ニ在ルニセヨ、其起元ニ關シテ說明セシモノハ尚ホ進ンデ、顯花植物ニ論及セント企ル所ナルベシ。併シ髓ノ起元ハ或部門ガ共同祖先ヨリノ系統的分岐ニ先キ立ツ事ヲ證明シ得ルニアラザレバ其分岐セル部門ノ髓ノ系統的歷史上ノ成立ガ他ノ部門ノ髓ニ何等ノ關係ナキナリ。故ニ吾人ハ羊齒類植物ノ筒狀圓柱型（Solenostely）ヨリシテ顯花植物ノ系統的起元ヲ逃ベントスルモノニアラズ。羊齒狀種子植物類及ビ他ノ原始的種子植物ニ於ル髓ノ起元ヲ研究セント欲セバ、若シ材料ガ許スナラバ、例ヘバリギノデンドロン及ビ其近緣ノ植物ニ於テ其產出スル年代ヲ異ニセル各莖ノ比較解剖ヲナスヲ要ス。斯ノ如クシテ髓ノ起元ヲ知ラバ被子種物ノ圓柱ノ形態ニ就テ嘗テジェッフリ氏ガ試ミシ理論ニ必要ナル判斷ヲ與フベシト。

最後ニ著者ハ附言シテ曰ク、吾人ハ内皮ヲ以テ圓柱ノ内外ヲ定ムベキ確固不動ノ境界ナルヲ預斷セントスルモノニアラズ。内皮ノ通常在ラザル所ニ尚ホ内皮的構造ノ遇然ニ發育セル或ル實例ハ内皮的構造ガ往々全ク新ニ成生スルヲ指示スルヲ得ベシ。今マ吾人ハ内皮ノ何物タルヲ決定セントスルニアラズシテ、茲ニハ單ニ内皮ヲ以テ組織區域ノ指標トシテ其以外或ハ其以内ノ組織ガ髓ノ成立ニ與カルヤ否ヤヲ論ゼシノミト。(Y. SUZUKI)

○ボーバル氏『うすゆきさう屬及ビシセルビタ屬ノ地理的分布ニ就キテ』

Beauverd, G., Sur la distribution Géographique des Genres *Leontopodium* Cass. et *Cicerbita* Wallr. emend Beauv. Extrait du Bulletin de la Muri-

ノ、卽チ *Marattia* 屬植物ノ實生及ビ或ル他ノ場合之レニ屬ス。

四、葉囊(Leaf-pocket)ノ浸入ニヨリテ內皮及ビ皮層ヨリ髓ヲ生ゼシモノ。卽チ發育ノ初期ヲ旣ニ經過セルはなやすり科植物及ビ一般ニ小囊羊齒族之レニ屬ス。

五、皮層ヨリ由來セシ髓ヲ中央部トナシ之レヲ包圍シテ圓柱ガ配置セラレタルモノ。卽チ *Selaginella laevigata, var. Lyalli* 之レニ屬ス。

如何ナル原因ニヨリ髓ガ生ゼシカヲ說明スルニ當ツテ假說的狀件トシテ著者ハ尙ホ述ベテ曰ク、小葉ヲ有スル直立軸ニ於テハ髓ガ圓柱內起元ニヨリ生ズルニ有利ナリシナレドモ、大葉ヲ有スル匍匐軸ニ於テハ髓ノ圓柱外起元ガ有利ナリシナラン。大葉ヲ有スル直立軸ニテハ髓ノ一部ハ圓柱內起元ニシテ他ノ一部ハ圓柱外起元ナルベシ。此二起元ノ平衡ノ如何ハ葉ノ發出及ビ其位置ニヨリ略ボ預知シ得ベシ。小葉ヲ有スル匍匐軸ニテハ圓柱外起元ノ髓ハ圓柱組織ト相調和シテ構成セラレシモノナラン。其狀態ハ地下莖ヲ有スル羊齒植物ニ見ラルヽガ如シ、卽チ *Selaginella laevigata, var. Lyalli* ハ此場合ナリ。圓柱內起元或ハ圓柱外起元ノ孰レカニヨリテ髓ガ或ル部門ニ於テ嘗ツテ起始セラレンカ、其方法ハ保守的傾向ヲ示ス、卽チ其軸ノ位置ガ系統的ニ變化セシ以後ト云ヘドモ、尙ホ然ル場合ヲ指示スル多數ノ事實アリト。著者ハ以上ノ如ク說明シ以テジェッフリ氏ガ嘗テ髓ハ凡テ皮層ヨリ必ズ誘導セラルト宣言セルニ對シテ、尙一層適當ナリト思惟シ、而シテジェッフリ氏ノ主張スルハ單ニ髓ノ起元ノ一因タルニ過ギズトセリ。更ニ著者ハ曰ク、髓ハ事實上、水分及ビ營養物質ノ貯藏ノ主要ナル作用ヲナスモノナルガ故ニ髓ノ起元ハ羊齒植物一般ニ單ニ一因ニノミ歸スル能ハズ。又タ髓ノ起元ガ圓柱ノ內外孰レノ組織ニヨルカハ葉及ビ軸ノ大サニ密接ナル關係ヲ有ス。卽チ軸ノ太クシテ葉ノ小ナル時ハ皮層組織ノ浸入ナキモ、軸ガ比較的大ナル葉ヲ有スル時ハ其浸入ヲ起シ易ク、且ツ其浸入ノ度ハ葉ノ過大ノ程度ニ相伴フモノナリ。而シテ葉ノ大小ハ其羊齒植物ノ習性ニ相關聯ス。力學上、直立軸ニシテ安定ナル爲ニハ比較的短ク且ツ太カラザル可カラズ、而シテ其葉ハ相密生スルヲ要ス。斯ノ如キ型ニ於テハ髓ノ起元圓柱內ニ生ジ易シ、是レ直立習性ノ生態上然ラシムル所ナリ。匍匐羊齒植物ニテハ前型ノ如キ構造ヲ要セズシテ尙ホ其軸ノ安定ヲ保持シ得ルガ故ニ軸ノ細長ナルニ比シテ其葉ノ大ナル所以ナリ。匍匐習性ノ主要ナル一原因ハ比較的大ナル葉ヲ有スルニアリ、モシ然ラザレバ其大ナル葉ヲ支持シ能ハザルガ故ナリ。是レ其匍匐習性ノ生態上ノ關係ヨリシテ髓ノ圓柱外起元ヲ導ク所以ナリ。皮層組織ガ圓柱ノ木部內ニ浸入セル極端ナル場合ハ軸ノ空洞構造ヲ呈ス。是レ其深キ內部浸入ニ際シ、軸ノ

新著　○バワー氏『羊齒植物ニ於ル髓ノ起元』

始的ト見做ス可キモノナリト、著者ハ尙減數分裂ノ起ル可キ時期ニ就テ述ベテ曰クカルステン氏ノ研究セシ *S. juglandis* ハ接合子ノ發芽ノ際ニ起リ著者ノ研究セシ材料ニテハ何レモ接合後直ニ起レリ、之又あをみどろニ二型アルモノニシテ著者ノ先年あをみどろノ接合子ニ於テ減數分裂ノ起ラザル可シト云セシハ全ク此ノ兩型ノ存スルヨリ來リシ誤ニシテ著者ハ當時 *S. communis* ヲ研究シテ接合ノ直後ニ減數分裂ヲ見ズ *S. neglecta* ヲ觀察シテ發芽ノ際ニ又分裂ヲ見ザリシガ爲ナリ、卽チ *S. communis* ハ *juglandis* 型ニ屬スルモノナリシナリト、

最後ニ著者ハ「シナップシス」ノ意義ニ就テ述ベテ曰ク、あをみどろニ於テグレゴアール氏ノ「レプトテマ」「チゴテマ」、「パキネマ」、「ストレプシテマ」ノ諸期ニ全々一致スル各期幷ニ「シナップシス」ナル核質ノ收縮ヲ明ニ觀察スルヲ得タレドモ其ノ異ナル點ハ第一成熟分裂（異型分裂）ノ前期ニ於テ起ルニ非ズシテ接合子ノ二核未ダ融合セザル以前ニ起ルニアリ、卽チ以上ノ各期ハ相接セル兩核ニ於テ全ク同一步調ヲ以テ發育ス、如斯單數染色體ヲ有ス可キ核ニ於テ斯ル現象ヲ呈スルハ本期ニ於テ父母兩系ニ屬スル染色質ノ融合スルモノナリト云フ「シナップシス」ノ意義ヲ沒却スルモノニシテ核ノ內容ノ核室ノ一方ニ偏在スル其ノ位置ハ兩核何レモ同一方向ニシテ常ニ下方ニ向ヘルヨリ推知シテ重力ニ起因スル人工的生成物ナリトセリ、

（Y. KUWADA.）

○バワー氏『羊齒植物ニ於ル髓ノ起元』

Bower, F. O., On Medullation in the Pteridophyta. Ann. of Bot. Vol. XXV, No. XCIX, July, 1911.

著者ハ羊齒植物ノ實生ノ發育竝ニ其成熟體ニ就テ、或ハ發生學上或ハ解剖學上或ハ薇科及ビ鱗木科ノ如キ化石植物ヲ產出セシ地層ノ歷史上ノ見解ヨリシテ、羊齒植物ニ於ケル髓ノ起元一樣ナラザルヲ說明シ、其結論トシテ次ノ五ツノ場合ヲ擧ゲタリ。

一、莖ノ中軸木部內ノミニ其起元ヲ有スルモノ、卽チ木管組織ノ退化ニヨリテ髓ノ生ゼシモノナリ。鱗木科及ビ原始的薇科之レニ屬ス。而シテ木賊族モ亦タ之レニ屬スルナラン、是レ或ハ *Selaginella spinulosa*, はなやすり科、薇科植物發育ノ初期及ビ *Marattia* 屬ニ於ケル髓ノ如ク其一部分木部ヨリ生ゼシモノナラン。

二、木部以外ナレドモ尙ホ圓柱(Stele)內ノ結組織ニ由來スルモノ、卽チはなやすり科植物發育ノ初期及ビ薇屬植物ノ實生ニ於ル髓ノ起元是ナリ。而シテ *Selaginella spinulosa* ノ髓ノ起元ノ一部分モ亦タ之レニ屬ス。

三、二層內皮ノ內層ガ木部內ニ浸入シテ髓ヲ構成セシモ

和名ハ二三ノ外凡テ先輩ノ命名セルモノヲ襲用セリ

因ニ蘚苔殊ニ苔類ノ採集ニハ假令一ノ樹幹ニ着生セルモノト雖モ、位置ノ異ナルニ從ヒ嚴密ニ區別セザレバ、鑑定ヲ受クルノ際、命名セラレタルモノト扣ト其種屬ヲ異ニスルコト少カラズ、注意セザルベカラズ、

◎新著

○トレンドル氏『あをみどろノ接合子ノ減數分裂幷ニ「シナップシス」ノ意義ニ就テ』

Tröndle, A., Über die Reduktionsteilung in den Zygoten von *Spirogyra* und über die Bedeutung der Synapsis. Zeitschrift f. Botanik, Bd. III. Heft 9. 1911

一九〇九年カルステン氏ハあをみどろノ接合子ハ其ノ接合核ガ二回ノ分裂ニ依テ染色體ノ減數ヲナシ四個ノ娘核ヲ形成スルコトヲ *S. jugalis* ニ於テ觀察シタレドモ其ノ娘核ノ運命ニ就キテハ尚ホ之ヲ明ニセザリキ、著者ハカルステン氏ノ研究ガ如何ナル範圍マデ一般的ナルヤ又四個ノ娘核ノ運命如何ノ疑問ヲ解カンガ爲メ更ニ *S. calospora*, *S. longata*, 及ビ *S. neglecta* ニ就キ細胞學的研究ヲ施シタリ、*S. calospora* ト *S. longata* トハ其ノ接合核ノ分裂ニ於ケル染色體ノ行動ハ全ク同樣ニシテ前者ニテハ其ノ第一分裂ニ於テ約十八、第二分裂ニ於テ約九、後者ニテハ二十乃至二十二、及ビ十乃至十二個ノ染色體ヲ觀察シタリ、而シテ第二分裂ニ於ケル染色體ノ大サハ第一分裂ノ其レヨリモ或ハ大ナルガ如シト、如斯シテ出來シ四核ハ如何ナル運命ヲ有スルヤト云フニ內一個丈ケハ正常ノ發育ヲ遂ゲ他ノ三個ハ漸時縮小シテ敗壞ニ歸ス、卽チ成熟セル接合子ハ只一個ノ核ヲ有スルニ至ル、

S. neglecta ニ於テハ染色體ノ行動稍々前二者ト異リ第一分裂ニ於テ四個ノ染色體ヨリナル十二個ノ染色體群ヲ現ハシ動物ニ於ケル異型分裂ト彷彿タリ、此等ノ染色體ハ二個宛兩極ニ分タルヽニ及ンデ二個互ニ融合シテ一個ノ如キ觀ヲ呈ス、第二分裂ハ卽チ同型核分裂ニシテ茲ニ矢張十二個ノ染色體表ハレ四個ノ娘核ハ各々十二個ノ染色體ヲ有ス、四個ノ娘核ノ運命ニ就キテハ不明ナレドモ多分前兩者ト同樣ナル可シ、

著者ハ之ヲカルステン氏ノ場合ト比較シテ曰ク、あをみどろノ減數分裂ノ樣式ニ二型アリ卽チ一ツハ *S. jugalis* *S. neglecta.* ノ型ニシテ他ハ *S. longata.* *S. calospora* ノ型ナリ、前者ハ一般ノ減數分裂ノ型ニシテ後者ハ寧ロ原

行發日十二月二年五十四治明

○再び日本へよせたうけ屬(*Frullania*)に就て　飯柴

F. clavellata St.	まおからさやすだりけ
F. conistipula. St.	あちのこやすだりけ
F. densiloba St.	ほそやすだりけ
F. dilatata(L.) Dum.	まるさやすだりけ
F. diversitexta St.	ひあやすだりけ
F. Fauriana St.	ひろさやすだりけ
F. formosa S.	たかそこやすだりけ
F. fuscovirens St.	
F. hamatiloba St.	かぎやすだりけ
F. Inuena St.	こまのやすだりけ
F. japonica S.Lac.	やすだりけ
F. kagoshimensis St.	かごしまやすだりけ
F. kochiensis St.	かうちやすだりけ
F. koreana St.	こまのやすだりけ
F. laciniosa Lehm.	
F. laniloba St.	ひらおさやすだりけ
F. Makinoa St.	まきのやすだりけ
F. minutifolia St.	ひめあやすだりけ
F. minutiloba St.	あやすだりけ
F. moniliata St.	えだこやすだりけ
F. motoyana St.	もとやまやすだりけ
F. musicola St.	
F. nepalensis(Spreng.)	おにやすだりけ
F. nishiyamensis St.	にしやまやすだりけ
F. ontakensis St.	おんたけやすだりけ
F. ornithocephala Nees.	かおさしやすだりけ
F. parvistipula St.	ひめあかやすだりけ
F. pedicellata St.	
E. picta St.	あかやすだりけ
F. riparia St.	かわやすだりけ
F. sakawana St.	さかさやすだりけ
F. squarrosa N. ab E.	みそらやすだりけ
F. takayuensis St.	たかゆやすだりけ
F. Tamarisci(L.)Dum.	おほやすだりけ
F. tamsuiana St.	たむすいやすだりけ
F. taradakensis St.	たらだけやすだりけ
F. tenella St.	ほそやすだりけ
F. truncatifolia St.	
F. usamiensis St.	うさやすだりけ
F. valida St.	

葉ノ裂片ハ圓筒形、葉ハ球形、托葉ハ小ナリ　……*angustata.*
葉ノ裂片ハ非對稱ナリ　……二七

二二、葉ハ廣卵形、裂片ノ幅廣シ、嘴彎曲ス、托葉ハヤヽ圓ク時トシテ左右ニ二齒アリ……*Faviana.*
葉ハ倒卵形、裂片ハ卵狀楕圓、幅ノ方廣シ、嘴大ニシテ內曲、托葉ノ裂片銳頭……*obtalcensis.*

二三、葉ハ長楕圓、托葉大ニシテ裂片鈍頭……*valida.*
植物ハ小、葉ノ裂片ハヤヽ大ニシテ非對稱、托葉ノ裂片ハ三角銳尖頭ナリ……*truncatifolia.*

二三、葉ハ廣卵狀楕圓、裂片ノ嘴ハ鉤狀銳尖ナリ……*koshiensis.*
葉ノ裂片ノ嘴ハ銳尖ナラズ……二四

二四、托葉ノ裂片ハ鈍頭ナリ……二五
托葉ノ裂片ハ銳頭ナリ……二六

二五、葉ハ廣倒卵形、裂片大ニシテ口正シ……*pervistipula.*
葉ハ圓キ附屬物アリ、裂片ノ嘴狹クシテ曲ル……*pedicellata.*

植物ハ小、葉ハ球狀、圓キ附屬物アリ……*dilatata.*

二六、植物中大、葉ハ倒卵形、附屬物ナシ……*formosana.*
植物中大、葉ハ卵狀長楕圓、附屬物ナシ、托葉ハ小ニシテ缺刻アリ……*bidentula.*

二七、植物大、托葉ノ裂片ハ鈍頭……*validat.*
植物小、托葉ノ裂片ハ銳頭……*truncatifolia.*

F. abdwens St.　*F. apiculata* N. ab E.　とがりやすでごけ
F. amblyrrania. St.　くろやすでごけ　*F. appendiculata* St.　しだれやすでごけ
F angustata Mitt.　*F. bidentula* St.　つるぎやすでごけ

○再ビ日本ノやすでごけ屬(*Trullania*)ニ就テ　飯柴

葉ノ裂片ハ大ニシテ圓筒狀、葉ハ球狀、托葉ハ小ナリ……*angustelo.*

一六、植物ハヤヽ大、葉ハ卵狀楕圓ニシテ頂弓形ニ曲ル、裂片ハ嘴長ク彎曲シ、托葉ハ大ナリ……*hamatiloba.*

植物ハ小ナリ……一七

葉ハ倒卵形、圓キ附屬物アリ、托葉倒卵倒楔形……*densiloba.*

葉ハ倒卵形、裂片僧帽狀倒卵形、托葉ハ大、下方ニ倒楔形、莖ノ四倍ノ廣アリ……*Mukinoana.*

一七、葉ハ卵形、圓キ附屬物アリ、裂片小、托葉ハ莖ヨリ二倍廣ク倒卵形、下方ニ倒楔形……*riparia.*

葉ハ卵形非對稱、托葉ハ小、莖ヨリ少廣、廣倒卵形……*motoyana.*

葉ハ卵狀楕圓、托葉ハ長サ幅ニ等シ、下方ニ倒楔形ナリ……*aduncus.*

一八、葉ハ倒卵形、裂片大、托葉ノ裂片ハ鋭頭……*musicola.*

葉ハヤヽ圓ク、圓キ附屬物アリ、托葉ノ裂片ハ截形ナリ……*convistipula.*

托葉ハ略圓シ……一一〇

一九、托葉ハ倒楔形ナリ……一一一

托葉ハ卵形、葉ノ裂片ハ披針形鋭尖頭ナリ……*laneiloba.*

二〇、葉ハ圓キ卵狀、裂片ノ唇種々ニ曲ル、托葉ノ裂片ハ鋭尖頭……*squarrosa.*

葉ハ卵狀長楕圓、附屬物圓シ、托葉ノ裂片鈍頭……*inscoviens.*

葉ノ裂片ハ僧帽狀、幅ノ方長シ……一一二

葉ノ裂片ハ僧帽狀、幅ハ長ヨリ短シ……一一三

葉ノ裂片ハ巨大、長及幅等シ、葉ハ倒卵形、托葉ハ小ナリ……*takayamensis.*

二一、葉ノ裂片ハ棍棒狀、葉ハ卵狀楕圓、托葉ハ大ナリ……*tenella.*

葉ノ裂片ハ倒卵形、中央以上急ニ膨レル、葉ハ倒卵形、托葉ハ小ナリ……*amplelamia.*

一〇、葉ノ裂片ノ長ハ幅ヨリ長シ……一二
　葉ノ裂片卵形ニシテ嘴曲ル、葉ハ廣卵形……*nepalensis.*
一一、葉ノ裂片圓筒形……一三
　葉ノ裂片棍棒狀……一四
　葉ハ楕圓形、鈎狀ノ附屬物アリ……*kagoshimensis.*
　葉ハ廣倒卵形、舌狀ノ附屬物アリ……*nishijamensis.*
一二、葉ハ廣卵形、圓キ附屬物アリ……*faurieana.*
　葉ハ長楕圓形、圓キ附屬物アリ……*koreana.*
一三、葉ハ心形、裂片ノ嘴曲式……*laciniosa.*
　葉ノ裂片卵狀楕圓、小羽枝ニ棍棒狀、托葉ノ裂片ハ鈍頭ナリ……*diversiexta.*
　葉ノ裂片ノ唇ハ種々ニ曲ル、托葉ノ裂片ハ鋭頭ナリ……*squarrosa.*
一四、植物ハ大、黄色、托葉ハ大ニシテ莖ヨリ六倍廣シ……*minutiloba.*
　植物ハ小ニシテ赤色、葉ハ卵狀楕圓、托葉ハヤヽ大ニシテ廣卵形ヲナス……*picta.*
一五、植物ハ小ニシテ暗赤色、葉ハ卵形、托葉ハヤヽ圓シ、裂片鈍頭……*diversiserta.*
　植物ハ小ニシテ黄色、葉ハ卵形非對稱、托葉小ニシテヤヽ圓シ、葉ノ裂片ハ口ニ小
　鈍齒アリ……*minutijolia.*
　葉ハ卵狀楕圓、托葉ハ大幅ノ方長シ、廣卵形ヲナス……*picta.*
　葉ハ卵狀、裂片ハ卵狀長楕圓、枝ニテ棍棒狀、托葉ハヤヽ大ニシテ、略圓シ……*diversitexta.*
　葉ノ裂片ハ僧帽狀、長ハ幅ヨリ長シ……一六
　同上、長ハ幅ニ等シ……一八

托葉ハヤヽ圓シ……四

三、葉ハ附屬物ナシ、托葉ノ裂片ハ鈍頭ナリ……*moniliata.*
葉ハ附屬物アリ、托葉ノ裂片ハ鋭頭ナリ……*clavellata.*

四、葉ノ裂片ハ倒卵形、附屬物ハ短突起アリ、托葉ノ裂片ハ鋭頭ナリ……*appendiculata.*
葉ノ裂片ハ圓筒形、附屬物ハ圓シ、托葉ノ裂片ハ鋭頭ナリ……*tamarisci.*

五、托葉ハ全邊ナリ……*japonica.* 六
托葉ハ二裂ス……

托葉ハ長及巾殆等シキカ又ハ幅ノ方長シ……七

六、托葉ハ長サ幅ヨリモ長シ……一五
托葉ハ上方兩側ニ稜又ハ齒アリ……一九

七、托葉ハ腎形ナリ……八
托葉ハヤヽ圓シ……一〇

葉ノ裂片ハ披針形(枝ニテ棍棒狀)托葉ハ大ナリ……*sakawana.*

八、葉ノ裂片ハ橫長楕圓、托葉大、凹頭……*usamiensis.*
葉ノ裂片ハ僧帽狀ナリ……九

葉ノ裂片ハ小ニシテ嘴甚鈎狀、托葉ハ大、頂短ク缺刻狀ニ二齒アリ……*ornithocephala.*

九、葉ハ殆球狀、托葉ノ裂片鈍頭……*taradakensis.*
葉ハ廣卵形、圓キ附屬物アリ、托葉ノ裂片鋭頭……*Inuena.* 一一

葉ノ裂片僧帽狀ニシテ幅ノ方長シ……
葉ノ裂片ノ長ハ幅ニ等シ、葉ハ心形……*lucinosa.*

植物學雜誌第二十六卷　第三百二號　明治四十五年二月二十日

再ビ日本ノやすでごけ属(*Frullania*.)ニ就テ

飯柴永吉

Iishiba,N— Review on the *Frullania* in Japan.

予頃日、日本ノ *Frullania* 属ニ關スル記載ノ大部分ヲ手ニスルコトヲ得タリ、ヨリテ再ビ之ニ就テ記スル所アラントス、本誌第二百六十八號ニ於ケル澤田氏ノ研究ハ本属ノ記載ガ未ダ全部發表セラレザル際ニ當リテ頗ル重要ノ研究タリト雖モ、惜ムラクハ原標本ニ一二ノ誤レルナキヤノ疑アリ、假令バ *F. ornithocephala* 及、*F. nepalensis* ハ *F. japonica* ト比スベキモノニアラズ、*F. Clavellata* ハ *F. monilata* ニ似タルモ、托葉ノ裂片鋭頭ナルヲ以テ分ツベシ、又、第一乃至第四圖ハ本属ノモノニ非ザルガ如シ、則チ第一圖ハ *Kagoshimensis* ニアラズシテ却テ第二十三圖ガ然ルガ如シ、又、*oshidensis* ハ第四圖ニアラズシテ第廿一圖ガ其物ナルガ如シ、ヨリテ試ミニ澤田氏ニ倣ヒテ更ニ一ノ檢索ヲ試ミントス、固ヨリ不學ニシテ且、實物ニ接スルコト少シ、或ハ却テ誤謬ノ多カランヲ恐ル、幸ニ大方ノ叱正ヲ賜ハリテ完成スルコトヲ得バ幸ナリ、

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一、葉ハ鋭頭アリ……二
　葉ハ鈍頭ナリ……五

二、托葉ハ廣卵球狀、葉ノ裂片ハ圓筒形又ハ披針形ナリ……*formosae.*
　托葉ハ心形、葉ノ裂片ハ披針形、小枝ニテ棍棒狀ヲナス……*apiculata.*

三、托葉ハ腎形ナリ……三

とすげ及やぶすげ(*Carex tenuissima* Boott; *C. remota* L.)ハ日本支那共ニ產スルコト知ラル故ニ書帶草ヲ以テすげノ類トスルトキハいとすげ若クハやぶすげニ充ツルコト穩當ナルベシ

◎雜　報

○遠藤石川兩氏ノ洋行　理學博士遠藤吉三郎氏ハ歐洲諸國漫遊ノ爲メ去十二月六日出發セラレタリ又理學士石川光春氏ハ今回菌類學泰斗アトキンソン敎授ノ招聘ニ應ジ米國イサカコロネル大學植物學敎室助手トシテ同十一日渡米ノ途ニ就カレタリ

◎東京植物學會錄事

○入　會

東京市小石川區水道端町二丁目四十二番地　（岡村周諦氏紹介）（終身會員）德　川　義　親

群馬縣群馬郡京ヶ島村大字元島谷村五十九番地　（小松春三氏紹介）　關　龜　齡

○退　會

野村益太郎　內山富次郎

○轉　居

東京府下荏原郡世田ヶ谷太子堂　菊　池　秋　雄

東京市靑山南町六丁目五十一番地　宮　川　漁　男

雜報　○藤遠石川兩氏ノ渡米　○東京植物學會錄事　○入會　○退會　○轉居

別シ居レルヲ知ル卽兩角ノモノヲ菱ト稱シ三角、四角ノヲ芰ト稱セリ余ノ自ラ採集セルハ此湖中ノモノノミナリ又南京上海等ノ市中ニテハ菱實ヲ賣リ居ルヲ以テ余ハ上海ニテ之ヲ購求セシメタリ是ハ著ク紅色ヲ呈シ居リシガ日ヲ經ルニ隨ヒ黑變セリ支那ノ書ニ菱ヲ記シテ云ク有皮嫩而紫色者…食之尤美ト上海ニテ得タルモノハ此類歟、此品竝ニ玄武湖ノ品、中野氏ノ研究ニ供セラレタリ

因ニ記ス支那ニテ從來南ノ字ノ用ヒ方頗ル漠然タリ普通ニ南清ト云フトキハ多クハ廣東邊一帶ノ地ヲ指スガ如キモ支那ノ南北朝ノ稱ハ主トシテ長江ヲ本トシテ區別シ古人ガ此江ヲ指シテ天所以限南北也ト云ヘルガ如キ白居易ガ蘇州ニ居リタルトキ欲辭南國去ト云ヘルガ如キ又江南ト稱スル慣用ノ語ノ如キ其指ス所頗ル汎ナリ

○こうやかみつれ (*Anthemis tinctoria* L.) ニ就テ

松田

此菊科植物ハ歐洲ノ產ナレドモ今ハ我邦ニ栽培セラレテ處々ニアリ觀賞ニ供ス宿根ニシテ全體暗綠色毛茸アリ莖ハ一二尺ニ達シ枝ヲ分ツテ小叢ヲ成ス葉ハ羽狀ニ分裂レ裂片ハ狹細ニシテ鋸齒ヲ具ヘ葉背ニ軟毛アリ花梗長ク抽キ葉ヲ着ケズ頭狀花叢ハ徑一寸許標準品ニテハ邊緣花ハ黃色ナレドモ變種ノ一 (*var. pallida* DC.) ニテハ白色ナリト云フ我邦ニテ栽培スルモノヨリ製セル標本ニモ黃花品、白花品共ニアリ白花ノ方ハ蓋此變種ニ相當スルモノト考フ此植物ハ花ヨリ染料ヲ得ベシ故ニ其和名ハ藥用植物ノかみつれニ對シこうやかみつれ (紺屋かみつれ) ト命ゼラレタルモノナラン

再ビ書帶草ニ於テ

松田

本誌二十四卷三四七頁ニ書帶草ニ就テ述ル所アリ此草ハいとすげ、やぶすげ若クハじようのひげ (じやのひげ) ニ相當スルモノニテ何レトモ確定シ難キコトヲ記シタルガ今又熊野物產初志 (源伴存錄) ノ一卷ヲ見ルニ左ノ項アリ

書帶草

ひめすげ、國朝律賦偶箋。書帶草賦曰。不幹而生。無香亦藹。搖曳如絲。飛揚若旆。以類則草。以形則帶。以下略

卽ひめすげヲ以テ書帶草トスル說ナリサレドモ現今吾人ノ知ルひめすげハ (*Carex Wrightii* Fr.) ニシテ高山ニ生ズル種類ナリ紀州物產初志ノひめすげハ果シテ同一種ナルカ否遽ニ判シ難シ書帶草ノ名ハ勿論支那ニ起レリサレドモ *C. Wrightii* ガ支那ニ產スルコトハ未ダ詳ナラズい

○節間ヲ以テ屈曲スル莖ヲ有スル植物

牧野富太郎

みやまみづ(*Lilaea pelioloris* Blume.)ハ他ノ植物ト相異ナリテ莖ノ節間ノ中央部膨腫シテ宛モ節ノ如ク此膨腫部屈曲シテ恰モ他植物ノ節ニ於テ屈曲スルガ如ク然リ而シテ眞正ノ節ハ却テ少シモ膨腫セズ又屈曲セズシテ眞直ナリ此ノ如キハ極メテ稀ナル一例ニ屬ス

○さはたうがらしノ閉鎖花

牧野富太郎

さはたうがらし(*Gratiola violacea* Maxim.)ノ正花ヲ開クモノハ長キ腋生ノ小梗アリ然レドモ往々株上閉鎖花ヲ著ケ時ニ其全株ノ花皆閉鎖花ナルコトアリ或ハ唯其梢ノミ長梗ノ正花ヲ出シテ他ハ皆閉鎖花ナルアリ而シテ閉鎖花ハ多クハ無柄ニシテ或ハ極メテ短キ小梗ヲ有スルモノアリ其タバ無梗ノ閉鎖花ノミヲ著クル株ヲ取テ之ヲ有梗ノ正花ヲ著クル株ト比較セバ則チ其間自ラ別種ノ觀ヲ呈スト雖ドモ是レ元來ハ同一種タルニ外ナラザルナリ

○ひめほたるゐノ越冬狀態ハはす的ナリ

牧野富太郎

ひめほたるゐ(*Scirpus lineolatus* Franch. et Sav.)アリ水草ナリ泥中ニ横走セル地下莖ヲ引テ繁殖ス秋深クルニ及ベバ其織長ナル地下莖ノ末端一節間乃至二三節間肥厚シテ其狀頗ル蓮根ニ類似ス是レ卽チ越年ノ用意ニシテ其事實敢テ珍トスルニ足ラズト雖ドモ今此種ニ此ノ如キ狀態アルコトヲ示スコト敢テ無用ニモアラザルベシ是レ未ダ世ニ明カナラザリシ一事實ナレバナリ

○ひしノ支那ニ於ケル一産地ニ就テ

(松田)

昨年十月ノ本誌ニ中野學士ノひしニ關スル論說アリ其中ニ『昨夏松田氏ガ南清ニ旅行サレ上海附近ニテ二種ノひしヲ採集セラレタリ』云々トアリ當時余ノ旅行ハ僅ニ南京ヲ見舞タルニ止マレルガひしヲ採集シタルハ南京城外ノ玄武湖一名後湖ニ於テセリ此湖ハ周回四十支那里ト稱スレドモ現今ハ夫レ程大ナラザルガ如シ歷代游觀ノ場所ニシテ六朝時代ニハ水戰ノ演習ヲナシタリト聞ク湖中ニ島アリ今ハ築堤ニテ陸續キトナレリ島中ニ村アリ寺院アリ湖水ノ產物ハ村民ノ所有ト云フ余ノ行キタルトキハ陽曆八月ノ末ニテ湖中ニハはす、おにばす、ひし等開花又ハ結實ノ際ニテ村民ノ採取ニ從事スルモノ多シひしハ殊ニ密生シ或ル場所ニテハ舟行ヲ妨グルニ至ル概シテ我邦ノ產ニ比スレバ發育良好ナルヲ見ル兩角、四角ノモノ共ニ混生ス支那ノ書ヲ參スルニ古クヨリ角ノ數ニテ菱類ヲ區

○せんだいたいげきノ産地

中井猛之進

草本圖說ニアルせんだいたいげきハ大戟ノ一種ニシテ牧野氏圖說ヲ改版スルニ及ンデ *Euphorbia sendaica* MAKINO ト命ジ「一新種ナリ而シテ今其産地ノ不明ナルハ惜シムベシ」ト附記ス。頃日會員千葉芳雄氏岩手縣一ノ關附近ニテ採收セル植物ノ鑑定ヲ余ニ依賴ス。其中ニ本種ト目スベキモノアリ。五月ノ採品故概ネ果實ヲツケタリ。之レハ滿韓、黑龍江附近ニ廣ク分布スル *Euphorbia lucyuu* RUPR. ニ最モ近キモノナレドモ果實ノ突起著シカラズ或ハ其變種トスベキモノニ非ズヤトモ思ハルレドモ暫ク疑ヲ存シ唯前記ノ産地ヲ報ジ置ク。

○めいげつさうノ新産地

中井猛之進

めいげつさうハいたどりノ一種ニシテ草木圖說中ニ圖解アリ。余明治四十二年九月號ニ *Polygonum Reynoutria* MAKINO var. *humilis* NAKAI トシテ發表シ、牧野氏又改版草木圖說第二卷（明治四十三年八月十五日發行）ニ重ネテ *P. Reynoutria* forma *coloratus* MAKINO ノ新稱ヲ附セリ。會員吉野善介氏ガ送附セル標品中ニ同品アリ。氏ハ昨年九月之レヲ備中國阿哲郡幸田ニ採リシト云フ。本品ノ一新産地ナリ。

○新稱からちだけさし

中井猛之進

Astilbe chinensis (MAXIM.) FRANCH. et SAV. ハ一八五九年マキシモウヰッチ氏ガ Primitiæ Floræ Amurensis ニ *Hoteia chinensis* ト命名記載セルモノナリ。北清、滿韓地方ニ分布シ日本ノからだけさしニ類スレドモ花瓣細ク先端太マラズ、內地産ノモノハ此點ニテ var. *japonica* MAXIM. ノ名アリ、矢部吉禎氏ガ對馬上縣郡仁田村ニ採ラレシモノハ內地式ニアラズシテ滿韓式ナリ、和名からちだけさしヲ呼バント欲ス、

○なにはばらノ自生地

牧野富太郎

なにはばら（*Rosa levigata* MICHX.）ハ通常處々ニ栽植スト雖ドモ亦稀ニ野生アリ卽チ土佐國高知附近ノ地ノ如キ是ニシテ今ヨリ凡二十餘年前既ニ其自生ノ事實分明セリ頃日灘尾周市君亦之ヲ筑後八女郡中廣川ノ原野ニ採ル亦野生ナリ

Trachelospermum jasminoides Lemaire. ていかかづら
Verbenaceae
Clerodendron tricotomum Thunb. くさぎ
・ Solanaceae
Solanum biflorum Lour. めどころほゝづき
Solanum nigrum L. いぬほゝづき
Rubiaceae
Damnacanthus indicus Gaertn. ありどほし
Oldenlandia hirsuta L. f. はしかぐさ
Paederia tomentosa Bl. へくそかづら
Compositae
Cacalia krameri(Fr. et Sav.) やぶれがさ
Cirsium spicatum(Maxim.) やまあざみ
Ligularia Kaempferi S. et Z. つはぶき

○野あざみ。野はらあざみ及ビ車あざみ。

中井猛之進

野あざみハ五月ヨリ六月迄ニ花ヲ開キ終ルモノニシテあざみ中最モ普通ノ品種ナリ、本邦學者間ニハ(*Cirsium japonicum* DC. トシテ知ラル。野はらあざみ(牧野氏所命)ハ七八月ヨリ開キ始メ十月頃最モ盛ニ開花スルモノニシテ、此レ又本邦ニテ最モ普通ノあざみナリ。我邦學者間ニハ未ダ一定ノ學名ナシ。

野あざみト野はらあざみトハ上記ノ如ク全然花期ヲ異ニスルノミナラズ、野あざみノ方壯大ニシテ花モ大キク總苞ハ粘着性アリ。之レ Maximowicz 氏ガ Mélanges Biologique 第九卷ニ *Cirsium japonicum* DC. var. *intermedium* Maxim. ト云フモノニシテ *C. japonicum* 其モノニ非ズ、而シテ野はらあざみト云フモノコソ *C. japonicum* ノ本尊ナリ。兩者ハ乾燥標本ニテハ一見區別シ難ケレドモ全然性質ヲ異ニスルモノナルコト明ナリ、茲ニ車あざみト云フモノアリ。余ノ知ル所ニテハ甲斐、武藏、常陸ニ分布ス。之レ野はらあざみノ下方ノ總苞ノ一部ガ葉狀化セルモノニシテ通例野はらあざみト混生シ又ハ獨立シテ叢生シ、葉狀ノ苞ニハ長短アリ。短カキハ二三分ヨリ長キハ二寸許アリ。又同一種ヨリ數本出ヅルトキハ同ジク長短不同ニシテ稀ニハ單ニのはらあざみト同樣ノモノヲ混ズルコトスラアリ、學名ヲ *Cirsium japonicum* DC. var. *obvallatum* Fran. et Sav. ト云フ。

CRUCIFERAE

Cardamine hirsuta L. var. silvatica LINK. たねつけばな

PITTOSPORACEAE

Pittosporum Tobira AIT. とべらのき

ROSACEAE

Rubus sp.

LEGUMINOSAE

Amphicarpaea Edgeworthii BENTH. var. japonica Oliv. やぶまめ

Indigofere tinctoria L. こまつなぎ

Kraunhia floribunda (WILLD.) TAUB. ふぢ

Lathyrus maritimus(L.)BIGEL. var. Thunbergianus MIQ. はまえんどう

Lespedeza pilosa S. ET Z. ねこはぎ

EUPHORBIACEAE.

Acalypha australis L. えのきぐさ

Daphniphyllum glaucescens.BL. ひめゆづりは

AQUIFOLIACEAE

Ilex integra THUNB. もちのき

CELASTRACEAE

Euonymus japonica THUNB. まさき

THEACEAE

Taonabo japonica SZYSZ. もくこく

Thea japonica(L.)NOIS つばき

STACHYURACEAE

Stachyurus praecox S. et Z. きふじ

ELAEAGNACEAE

Elaeagnus macrophylla THUNB. まるばぐみ

Elaeagnus umbellata THUNB. あきぐみ

ONAGRACEAE.

Circaea guadrisulcata MAXIM. みづたまさう

ARALIACEAE

Acanthopanax ricinifolium S. et Z. はりぎり

Aralia cordata THUNB うど

Dendropanax japonicum SEEM. かくれみの

Herada Helix L. きづた

Umbelliferae

Hydrocotyle asiatica L. つぼくさ

Peucedanum japonicum. THUNB. ぼたんばうふう

CORNACEAE

Aucuba japonica THUNB. あをき

MYRSINACEAE

Ardisia crispa DC. まんりやう

Ardisia japonica BL. やぶかうじ

APOCYNACEAE

行發日二十三月一年五十四治明

Nephrodium Totta Diels　みぞしだ
Odontosaria chinensis Kuhn. var. tenuifolia Makino　ほらしのぶ
Polystichum aculeatum Roth. var. japonicum Fr. et Sav.　ねので
Polystichum aristatum Presl.　ほそばかなわらび
Polystichum falcatum Diels.　やぶそてつ
Polystichum lepidocaulon Sm.　おりづるしだ
Polystichum varium Presl.　いたちしだ
Woodwardia radicans Sw.　こもちしだ

Gramineae

Calamagrostis arundinacea Roth.　のがりやす
Pollinia imberbis Nees.　あしぼそ
Pollinia nuda Trin.　さゝがや

Commelinaceae

Pollia japonica Harnst.　やぶめうが

Liliaceae

Liriope graminifolia Back. var. communis Maxim.　やぶらん
Smilax China L.　さるとりいばら
Tricyrtis hirta Hook.　ほととぎす

Piperaceae

Piper Futo-kadzura S. et Z.　ふうとうかづら

Fagaceae

Pasania cuspidata Oerst.　しひのき

Ulmaceae

Celtis sinensis Pers.　えのき

Moraceae

Ficus erecta Thunb.　いぬびは
Humulus japonicus S.et Z.　かなもぐら

Urticaceae

Boehmeria biloba Wedd.　らせいたさう
Boehmeria holosericea Bl.　のさを
Boehmeria spicata Thunb.　こあかそ

Aristolochiaceae

Aristolochia Kaempferi Willd.　おほばうまのすゞくさ

Magnoliaceae

Kadsura japonica(L.)Dun.　さねかづら

Ranunculaceae

Thalictrum minus L. var. elatum Lecoy.　あきからまつ

Lardizabalaceae

Stauntonia hexaphylla Dcne.　ときはあけび

Lauraceae.

Machilus japonica S. et Z.　あをがし
Machilus Thunbergii S. et Z.　いぬぐす

ルニ中ニハ胞子層ノ周圍ニ硬毛ヲ有シタルモノモアリタリ故ニ不完全菌ノ分類ハ其名ノ示ス如ク分類甚ダ不完全ノモノナリ

○*Corynecspora* 本邦ニ産ス

原　攝祐

Corynecspora 屬ハ Güsow 氏ガ一千九百〇八年コレヲ爪類ニ發見シ *C. Mazei* Güsow ノ學名ヲ命ジ Zeitschrift für Pflanzenkrankheiten vol. XVI. p. 10 ニ發表セラレタルモノニシテ其特徴ハ *Helminthosporium* 屬ニ似レドモ同屬ノ如ク頂端ニ一個ノ胞子ヲ生ゼズシテ多數連鎖狀ニ着生スルモノナリ予ハ靜岡產女竹ノ生活葉ニ「ビロード」狀斑點ヲ認メ檢査シタルニ *Corynecspora* ニ屬スルヲ知リタレドモ *C. Mazei* トハ擔子梗ノ頗ル長クシテ一「ミリメートル」以上ニ達シ又胞子ノ形狀大サニ著シキ大差アルモノナリキ

○江ノ島ノ植物

矢島省三

本年十月十五日、余等動植物學科第一年生ノ有志ハ實習ノ爲メ相州江ノ島ニ赴ケリ、同島ハ比較的溫暖ノ地ニアルヲ以テ植物ノ發達殊ニ著シク該緯度ニ於テハ稀ニ見ルトコロノ常綠植物帶ヲ形成ス、コレ一ツハ海岸ニアリテ充分ナル濕度ヲ受クルヲ得ルト二ニハ古來保護地トシテ伐木ヲ免レタルニヨルモノナラン、該島ハシンパー氏ノ分チ樣ニ從ヘバ Temperirte Regenwald ニ入ルヽベキモノナラント云フ。該島ハ地形及ビ風向ニヨリテ植物ノ發達ニ差異アリテ、地方風ノ影響ヲ受ケテ西北部ハ植物ノ發達良好ナルモ東南部ハ比較的不良ナリトス。

同島ノ森林群ヲナス植物ハ主トシテ日本固有ノ植物ヨリ成リ凡テ常綠植物ナルヲ以テソノ下帶群落(Undergrowth)ハ之レヲ落葉森林ノソレニ比スレバ發育甚ダ良シカラズ、然レドモ陰地ヲ好ムトコロノ羊齒類ハ單體群落又ハ混合群落ヲナシテ其ノ發達頗ル美ナリ、卽チ坂下ノおりづるしだノ群落、中途ノみぞしだの純群落、又ハ頂上ノ森林ノ下ニアルほそばかなわらびノ純群落ハ他ニソノ比ヲ見ザル所ナリ、(但シ余等ハ本道ヲ行カズシテ横途ヲ取レリ)以下掲グル植物ハ該島植物ノ一般ナリ。

POLYPODIACEAE

Asplenium incisum THUNB.　とらのをしだ
Coniogramme japonica DIELS　いはがねさう
Drymoglossum carnosum HOOK.　まめづた
Nephrodium Filix-mas RICH. var. erythrosorum CHR.　べにしだ
var. lacerum CHR.　くまわらび
Nephrodium sophoroides DESV.　ほしだ

○竹ノ結實

原　攝祐

淡竹ガ開花シテ所謂自然枯ヲ發生シ農林業者ノ被ムル損害甚ダ多額ニ達シ農業者ノ苦慮スルトコロ甚ダシ故ニ農商務省ニテハコレガ研究ニ從事セラレ卽チ農事試驗場ニテハ理學士農學士堀正太郎氏ハ自然枯ノ原因ハ近來氣候ノ旱魃ナリシト竹材ノ養分缺乏ノ結果ナリト論結シテ明治四十四年二月同場報告第二十八號ニ揭載セラレ且ツ二月二十三日東京植物學會ニコレガ講演ヲナサレタリ又タ山林局ニテハ理學士川村清市氏竹ノ開花ハ六十年乃至百二十年ノ間隔ヲ置キテ週期的ニ生ズルモノナルコトヲ證明シ同年三月東京植物學會ニ講演セラルヽト同時ニ本誌七月號以下ニ於テ記述セラレ白井博士ハ同一ナル意見ヲ日本農業雜誌五月號ヨリ以下ニ於テ發表セラレ安田又一氏ハ東洋學藝雜誌第三百六十一號ニ於テ竹稈ニ灰分ノ多量ニ生ジタル結果ナルコトヲ述ベラレタリ然レドモ以上ノ諸說ヲ見ルニ其種實ニ至リテハコレヲ記述セラレタルモノヲ見ズ「スヾ竹」「クマザヽ」ノ如キハ能ク結實スルモノニシテ木曾地方ニテハ明治三十年ニ「スヾ竹」結實シテ皆枯死セリ故ニ村民コレヲ採集シテ或ハ食シ或ハ家畜ノ飼料トセリコレニ反シ淡竹ノ種實ハ甚ダ稀レナルヲ以テ世人ガ之ヲ見認シタルモノ少キ故ニ卽チ一本ヲ調査スルニ僅ニ數種ヲ結實スルノミ又其稀少ナルヲ知ルベシ種實ハ種皮二枚ニヨリ包マレ紡錘狀ニシテ稍ヽ裸麥ノ種實ニ類スレドモ光澤ハ暗褐色ニシテ大サ裸麥ヨリ稍長ク又頂端ニ長キ突起アリ麥類ト同ジク腹ニ溝アリ內部白色ヲ呈スコレ等少量ノ種實ヲ農科大學白井先生ニ獻シ試驗用ニ供シタリ

○不完全菌ノ一二屬ニ就テ

原　攝祐

Pestalozzia 屬ハ自然ニ於テハ其胞子層ヲ表皮下ニ生ズ後露出スルモノナレドモ余ハ空氣中ヨリ一種ノ同屬ノモノモ分離シ培養セシニ菌絲ハ集合シテ被殼ヲ作リ內ニ胞子ヲ生ジ頂端ニ口孔ヲ生ジコレヨリ絲狀ニ噴出シタリ *Gloeosporium* 屬モ表皮下ニ胞子層及ビ子坐ヲ生ズルモノナレドモ同屬ニ侵害サレタル革果ノ表皮ヲ取リ去ルトキハ一見 *Mereclineae* ノ如キ胞子形成ヲナス又培養基ニ於テモ同一ノ狀態ヲ呈スルガ常ナリ *Colletotrichum* 屬ハ *Gloeosporium* 屬ト形式ハ全ク同一ナレドモ只胞子層ノ周圍ニ暗色ノ長キ硬毛ヲ有スルヲ異リトス故ニ或人ハ *C.* 屬ニ編入シタルモノヲ或人ハ *G.* 屬ニ編入スルコトアリ故ニ *Colletotrichum* 屬ノモノハ又 *Gloeosporium* ノ異名ヲ有スルガ常ナリ *Gloeosporium rufomaculans* ノ葡萄ニ寄生シタルモノヲ昨年多數ニ檢シタ

東亞大陸産かへで科

小泉源一

The Aceraceae of eastern continental Asia.

現世最かへで科植物ノ種屬ニ富ムハ東亞大陸及ビ日本群島ナリ。其內東亞大陸ニ產スルモノ大凡ソ二屬四十三種アリ、其內一屬ハ特有產ニテ只一種ヲ有スルノミ。今後探究ノ進ムニ及ビ支那ニハ益〻其特有種發見セラルヽコトナルヘシ。今其各種ノミヲ擧ゲレバ次ノ如シ。

第一、かへで屬(**Acea**, L.)

Sect. 1 **Platanoidea**. *Acer truncatum*. Bge; *A. pictum*; Thg; *A. laetum*, C. A. Mey; *A. tenellum*, Pax; *A. longipes*, Franch;

Sect. 2 **Palmata**: *Acer Sieboldianum*, var. *mandshuricum*, Max;

Sect. 3. **Spicata**: *Acer Oliverianum*, Pax; *A. Giraldii*, Pax; *A. Campbelli*, Hook. f. et Thom, *A. Caesium*, Wall; *A. Wilsoni*, Franch; *A. sinense*, Pax; *A. crianthum*, Gr. v. Schw; *A. robustum*, Pax; *A. caudatum*, Wall. *A. Ginnala*, Max; *A. trifidum*, Hook; *A. Paxii*, Franch. *A. Tutcheri*, Duthie.

Sect. 4. Integrifolia: *Acer oblongum*, Wall; *A. laevigatum*, Wall, *A. Fargesii*; Rehd; *A. lanceolatum*, Rehd. *A. cordatum*, Pax; *A. discolor*, Max.

Sect. 5. **Indivisa**: *Acer sikkimmense*, Miq. *A. Davidii*, Franch; *A. laxiflorum*, Pax.

Sect. 6. **Macrantha**: *Acer tegmentosum*, Max; *A. Grosseri*, Pax; *A. Maximowiczii*, Pax.

Sect. 7. **Arguta**: *Acer tetramerum*, Pax; *A. betulifolium*, Max; *A. barbinerve*, Max:

Sect. 8. **Lithocarpa**: *Acer Franchetii*, Pax; *A. Schoenermerkiae*, Pax; *A. pilosum*, Max.

Sect. 9. **Trifoliata**: *Acer sutchuense*, Franch; *Acer Mandshuricum*, Max; *A. trifloruu*, Kom; *A. griseum*, Pax; *A. Henryi*, Pax.

第二、**Dipteronia**. Oliv.

Dipteronia sinensis, Oliv.　(完)

乃至六「ミリメートル」、幅五乃至六「ミリメートル」アリ、外皮ハ革質ニシテ、外面黃褐色ヲ呈シ、若キ時ハ密毛ヲ帶ブ、內面ハ略ボ白色ニシテ、平滑ナリ、內ニ數個ノ小外皮ヲ藏ム、小外皮ハ白クシテ、規則正シキ「レンズ」狀ヲ爲シ、直徑二「ミリメートル」アリ、長柄ヲ具フ、仙臺ノ朽木上ニ生ズ、

○おつねんたけ(新稱)

Polystictus perennis(L.)Fr.

(所屬)　基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、さるのこしかけ科、さるのこしかけ亞科、

子實體ハ革質ニシテ、菌傘ト中柄トヲ具フ、菌柄ハ赭褐色ニシテ、天鵞絨樣ノ密毛ヲ帶ビ、下部ハ膨レテ球狀ヲ爲ス、長サ二乃至三「センチメートル」、太サ三乃至四「ミリメートル」アリ、菌傘ハ薄クシテ漏斗狀ヲ爲シ、後ニ擴ガリテ圓盤狀ヲ呈ス、直徑二・五乃至一〇「センチメートル」アリ、表面ハ褐色若クハ黑褐色ニシテ、輪層ヲ具ヘ、初メ密毛ヲ帶ビ、後ニ平滑トナル、裏面ハ黃褐色ニシテ、菌管ノ孔ハ小サク、多角形ヲ呈ス、基子ハ橢圓形ニシテ、長徑七乃至八μ、短徑四・五乃至五μアリ、黃色ヲ帶ブ、岩手縣江刺郡、藤里村長倉山ノ樹枝上ニ生ズ、和川仲治郎氏ノ採集ニ係ル、

○けかはらたけ(新稱)

Polystictus hirsutulus Schw.

(所屬)　同上、

菌傘ハ無柄ニシテ扇狀ヲ爲シ、革質ヲ帶ブ、表面ハ藍灰色ニシテ輪層ヲ具ヘ、絹絲樣ノ光澤アル毛ヲ密生スルコト、恰モかはらたけニ於ケルガ如シ、裏面ハ黃褐色若クハ褐色ヲ呈ス、菌管ノ孔ハ小サク、大サ不同ニシテ、多角形ヲ爲シ、其口緣ハ不規則ニ隆起シテ、一見毛ヲ以テ被ハレタルガ如キ觀ヲ呈ス、群馬、福島、岩手諸縣ニ產ス、

○はかはらたけ(新稱)

Polystictus pergameus Fr.

(所屬)　同上、

菌傘ハ無柄ニシテ扇狀ヲ爲シ、革質ヲ帶ブ、表面ハ灰白色或ハ灰色ニシテ、輪層ヲ具ヘ、密毛ヲ被ムル、裏面ハ黃褐色若クハ褐色ヲ呈ス、菌管ノ口緣ハ、長ク突出シテ菌狀ヲ爲ス、菌管ノ長サ一・五乃至二「ミリメートル」アリ、群馬、福島、岩手諸縣ニ產ス、

○すゑひろたけ

Schizophyllum alneum(L.)Schröt.＝**Sch. commune** Fr.

(所屬)　基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、まつたけ科、すゑひろたけ亞科(Schizophylleae)

子實體ハ無柄ニシテ、扇狀或ハ笠狀ヲ爲シ、一點ニ於テ樹皮面ニ著生ス、菌傘ハ革質ニシテ、薄ク、其緣邊裏面ニ向テ

假ニ其他ノ點ニ於テ類似セル屬中ニ本藻ヲ編入シ尚將來ノ研究ニヨリテヲ補ハンコトヲ豫期セリ。

新種、*Cyanoblyxium bilitiatum* nov. sp.

本屬中ノ最小ニ屬シ長二二、二μ、幅一六、九μ、橫溝ハ殆ド水平、體ノ各半ハ殆相等シ、縱溝ハ垂直、卅縱溝纖毛二、同長同形、眼點ナシ、生殖力强大ニシテ芽胞ヲ構成易シ、芽胞ハ刺狀ノ膜ヲ有シ密質。鹽化亞鉛沃土液ニテ强赤褐トナル。寒天培養基上人工的ニ芽胞生成ヲ催サシメ得ベシ、淡水池中ノ產ナリ。(H. Nakano.)

◎雜錄

○菌類雜記(五)

安田篤

○ちやうろこたけ(新稱)

Stereum fasciatum Schw.

(所屬)　基菌門、眞正基菌亞門、同節基菌區、帽菌亞區、いぼたけ科(Thelephoraceae)

菌傘ハ革質ヲ帶ビ、薄クシテ覆瓦狀ニ排列ス、長徑三乃至五「センチメートル」、短徑二乃至四「センチメートル」アリ、表面ハ茶褐色ニシテ、緣邊缺裂シ、明瞭ナル輪層ト、白キ密毛トヲ具フ、裏面ノ子囊層ハ平滑ニシテ、淡褐色ヲ帶ブ、仙臺林地ノ樹皮面ニ生ズ、

○ちやだいごけ

Cyathus stercoreus Schw.

(所屬)　基菌門、眞正基菌亞門、同節基菌區、茶臺苔亞區、ちやだいごけ科(Nidulariaceae)

子實體ハ、若キ時ハ倒卵圓形ヲ呈シ、後ニ頂端開キテ鐘狀ヲ爲シ、下部ハ狹柄トナル、高サ七乃至一六「ミリメートル」、幅四乃至六「ミリメートル」アリ、外皮(Peridium)ハ革質ニシテ、外面ニ密毛ヲ具ヘ、灰褐色ヲ呈ス、內面ハ平滑ニシテ、黑褐色ヲ帶ビ、數個ノ小外皮(Peridiolen)ヲ藏ム、小外皮ハ黑褐色ニシテ、「レンズ」狀ヲ爲シ、長徑二·五「ミリメートル」、短徑二「ミリメートル」アリ、其柄ハ長クシテ、二乃至四「ミリメートル」ニ達シ、白色ヲ帶ブ、本邦各地ニ產シ、從來(Cyathus Olla (Batsch.) Pers. = C. vernicosus (Bull.) DC. ト誤マラレ居リシモノナリ、本品ハ又淸國遼陽ニモ產ス、予ハ明治三十九年八月、該處ニ於ケル一砲壘ノ土砂ヲ包ミタル「ヅック」製ノ袋ノ上ニ、本菌ノ數多叢生セルヲ採集セシコトアリ、

○つねのちやだいごけ

Crucibulum vulgare Tul.

(所屬)　同上、

子實體ハ、若キ時ハ球形ニシテ、成熟スレバ坩堝狀ヲ呈ス、其口ハ初メ薄膜ニ由テ閉ヂラレ、後ニ開ク、高サ四

ヲ本論文ニ發表セルナリ。

著者ハ本藻ヲ生時ニ於テ注意シテ觀察セルノミナラズ「オスミユーム」ノ蒸氣ニ晒シ「フクシン」ニテ染色シ「カナダバルサム」ニテ密封シ再見セルモ明ニ二本ノ縦溝纖毛ヲ發見セリ。之ヲ以テ著者ハ之ヲ文獻ニ正シタルニ *Cerotium Tripos* 及 *C. tebraceros* ハ或狀態ニ於テハ稀ニ二次的ニ二本ノ縦溝纖毛ヲ發生シ得ルノ事實ヲ得タルモ本藻ノ如キ正常性質ナルラザハ大ニ異ナルノ點トス。

本藻ハ勢力減退シ不透明ニ化セントスルヤ縦溝纖毛ノ尖端ニ塊狀物ヲ發生ス。其運命ニ就テハビユツチュリーノ說クガ如ク纖毛ノ卷旋シテ本體ヨリ分離シ一時運動性ヲ有スルガ如クナラズ横溝纖毛ノ落去後モ長ク存在スルヲ見タリト云フ。然モ塊狀物ノ生成ハ全ク纖毛ノ解崩現象ニ因由スルモノト云フベシ。

本藻ノ芽胞ハ突起ヲ有シ膜ハ「セルローゼ」質ニシテ中ニ油滴及澱粉ヲ混ゼル黄褐粒ヲ充實ス。著者ハ人工的ニ〇、二「プロ」ノクノップ液ニテ作レル二「プロ」ノ寒天培養基ヲ以テ芽胞生成ヲ催サシムルニ成效セリ但シカクシテ生ゼル芽胞ハ突起ヲ缺クヲ常トス。

蠢藻ノ向光性ニ關シテハ從來精細ノ研究ナシ。著者ハ本藻ヲ以テ該現象ヲ明ニシ其七色光線中紫色部ニ尤誘引セラルヽヲ確認セリト云フ。

又蠢藻ノ接合生殖ハ現時尚未定ノ事實ニシテ將來ノ研究ヲ俟ツベシ。本著者モ本藻ニ於テ其存在ヲ認メントセシモ全ク負性ニ終レリ然モ之レニ反シ無性的ニ分裂スルノ狀態ハ容易ニ饒下シ目擊シ得タリト云フ。

終ニ著者ハ其分類上ノ位置ニ就テ稍委細ニ筆ヲ費シ最後ニ本藻ニ新種名ヲ加ヘ其標徴ヲノベ論ヲ結ベリ。曰ク

シユットノ如キ蠢藻ヲ以テ尤硅藻ニ近緣ナルモノトセルモオルトマンスハ之ヲ鞭毛藻ヨリ導カントシ双鞭毛藻ナル名ヲ下セルヲ見ル。吾人ハ諸種ノ研讃ニ見ルニオルトマンスノ說ノ正鵠ニ近キニアルヲ知ルナリ。之ヲ以テ今諸家ノ鞭毛藻ヲ分類セルノ業蹟ヲ見ルニ纖毛ノ數及形態ノ頗重大ナル位置ヲ占ムルヲ見ルナリ。例ヘバブユツチユリーノ如キ其基礎ヲ全ク此點ニ築キタルヲ見ルベシ。クレープスノ如キ體ノ前端ノ體制及營養攝取ノ方ヲ以テ主眼トナセルモノアリト雖ゼンハ先ヅ第一ニクレープスノ說ニヨリテ分類セル外收縮胞、被包膜、纖毛、有色體等ヲモ根據トセルヲ見ルベシ。殊ニゼンハ其他ノ體制ニ於テ類似セル時ハ纖毛ノ數及形態ヲ以テ屬ノ殊徴トナスベキヲ指摘セルニ似タリ。時トシテ氏ハ屬以上ノ類別ヲモ纖毛ニ由レルコトアリ。彼ニヨレバ纖毛ハ原期性質ニシテ被包膜ハ二次的性ナリト云フ。斯クノ如クナルヲ以テ著者ハ本藻ノ新屬モシクハ屬以上ノ新階級ニ屬スベキモノニアラザルヤヲ疑問ニ付セリ。然レドモ現時尚廣ク二縦溝纖毛ノ第一次性ナルヤノ事實ヲ確定シ難キヲ以テ

乙、子房ハ圓柱形ニシテ通常有毛ナリ。葉ハ通例無毛、果實ニ斑點アリ

第三區、Maculatae.(三種、A. coriacea, Dunn., A. callosa, Lindl., A. ruricaulis, Dunn.)

二、葉及ビ枝ニ尖銳ニシテ密着セル硬毛又ハ長柔毛アリ

第四區、Vestitae (十三種、A. Championi, Bth., A. holotricha, Ent. et Gagn., A. strigosa, Hk fil. et Thoms., A. Hemsleyana, Dunn; A. rudis, Dunn. A. Davidii, Fr; A. lanceolata, Dunn; A. eriantha, Bth; A. chinensis, Pl; A. lanata, Hemsl; A. fulvicoma, Hance; A. pachyphylla, Dunn; A. Henryi, Dunn.)

本屬ノ地理分布—東經七十八度ノクマオンヨリ同ク日本ノ東端ニ北ハ北緯五十度ノ樺太島ヨリ南ハ南緯八度ノジャバ島ニ至ル間ニ分布セリ内 Ampulliferae, Leiocarpae ノ二區ハ樺太、日本、滿洲、朝鮮、北支那、東西藏、及ビ雲南省ニ分布シ、Maculatae ハヒマラヤヨリ中央支那ヲ經テ臺灣島ニ及ビ一種ハジャバ島ニ分布ス、Vestitae ハ東ヒマラヤ、東西藏、中央支那、東部支那ニ多ク一種ハ爰趾支那ヨリスマトラ島ニ分布セリ。然シテ日本群島ニ分布スルモノ

A. melanandra, Fr; A. rufa, Miq (シラクチヅル) **var.** typica, Dunn; **var.** arguta, Dunn; **var.** cordifolia, Dunn; A. polygama, Miq (マタ、ビ); A. Kolomikta, Max, (ウスバシラクチヅル); A. callosa, Lindl. **var.** formosana, Finet et (Gagn; A. Championi, Bth. ノ六種ニ變種アリト云フ、(G. Koidzumi.)

○中井氏日本ほしくさ屬ノ一新種

Nakai, T.;—*Eriocaulon* novum Japonicum. in Bull. Geogr. Bot 20 Annee (4 Ser), No. 259, p. 139, 1911.

Eriocaulon Yoshinoi, Nakai, Sp. nov. ニシテ一九一〇年十月吉野善介氏ガ備中國本鄉村ニ採リタルモノナリ (G. Koidzumi)

○大野博士「淡水蟲藻ノ一種ニ於ケル觀察」

Ohno, N.:—Blobachtungen an einer Süsswasser Peridinee.

理科大學紀要卅二卷第二冊

近時或蟲藻ノ繁殖ニヨリ惹起サルヽ赤潮ノ害ニ就テ人ノ喧傳ヲ耳ニスルニ至リシ時ニ當リ淡水中ニアリテモ蟲藻ノ繁殖シテ水色ヲ變化セシムルニ至ルノ現象アルヲ然モ日本ニ於テ發見セルハ吾人ヲ益スル決シテ淺少ニアラザルナリ。著者ハ今ヤ東北農科大學ニ教ヲ乘ルルノ人ナリト雖曾テ東京理科大學ニ攻學中同植物園單子葉植物扶植池ニ於テ千九百一年ヨリ三年ニ至ルノ間該現象ヲ目擊シ諸種ノ生活史ヲ研究シ且分類學上一新奇事ニ屬スル新種

新著　○中井氏日本ほしくさ屬ノ一新種　○大野博士「淡水蟲藻ノ一種ニ於ケル觀察」

モノトセリ、サレバ同年ノエンドリッヘル氏ノ植物科屬大全補遺第三卷ニハ Ternstroemiaceae 中ノ Saurauja, Willd 屬ノ次位ニオキタリ。

一千八百四十七年プランコン氏ハ本屬ハ Dilleniaceae 各屬通有ノ花梗ヲ有スルヲ以テ之亦本科ノ內ニ納ムベキコトヲ云ヘリ、

一千八百四十九年ガードネル一千八百五十七年レーゲルノ兩氏ハ果實ヲ見ズ夫々 Heptaca 又ハ Kolomikta トナシ菩提樹科ノ內ニ入レタリ、

一千八百六十一年ベンサム氏ハ Ternstroemiaceae 中ノ Saurauja, Willd 屬ト最モ近キモノトナス、

一千八百九十年マキシモウィチ氏ハ本屬植物ノ細胞內ニ針狀結晶體ヲ有スルコトハ Dilleniaceae 植物ニ類似ノ點ナリト云ヘリ、

一千八百九十三年ギルヒ氏 Dilleniaceae ト Theaceae (Ternstroemiaceae p. p.) トノ分離點ハ假種被ノ有無、胚乳ノ多少、胚ノ大小、ニアリト云ヘリ、之ニヨレバ Actinidia, Saurauja 共ニ Dilleniaceae ヨリ分離スベキモノナリ、

著者ノ見解ニヨレバ Saurauja ハ Ternstraemiaceae ヨリ離ルベカラザルト同時ニ Actinidia, Clematoclethra ノ兩屬ハ Dilleniaceae ヨリ分離セシムベキモノナリ。

Saurauja ガ Dilleniaceae ニ入ルベカラザル點ハ a 花瓣ハ着生スルコト、b 丁字形葯アルコト、c 合生花柱ヲ有スルコト、d 無數ノ小種子ヲ有スルコト、e 胚ハ微小ナラザルコト等ニアリ、

Saurauja, Actinidia, Clematoclethra ノ三屬ガ Dilleniaceae 植物ニ類似ノ點ハ細胞內ニ針狀結晶體ノ存在スル一事實ニアリ、

獼猴桃屬ガ Dilleniaceae ニ近似スル點ハ a 子房ハ多室ナルコト、b 離生花柱ヲ有スルコト、c 胚乳多量ナルコトニアリ、然レドモ此等性質ハ亦 Ternstraemiaceae ニモ存在セリ。而シテ

獼猴桃屬ガ Ternstroemiaceae 固有ノ性狀ニ一致スル點ハ、a 丁字形葯ヲ有スルコト、b 無數ノ種子ヲ有スルコト、c 中形ノ胚ヲ有スルコト等ナリ。

本屬ノ分類ニ於テ著者ハ新ニ次ノ四區ヲ設ケテ既知二十三種ヲ配シタリ、

一、葖葉共ニ無毛ナリ、

甲、子房ハ無毛ニシテ果實ハ斑點ナシ、

第一區、Ampulliferae. (葉ハ時ニ葉脈及ビ脈腋ニ毛アリ)子房ハ德利狀ナリ)(六種、A. melanandra, Fr., A. rufa, Miq., A. Giraldii, Diels, A. polygama, Miq., A. tetramera, Mx., A. valvata, Dunn.)

第二區、Leiocarpae. (葉脈ニ僅ニ長柔毛アリ、枝ハ無毛子房亦無毛ニシテ圓柱形ナリ、A. Kolomikta, Max.)

ド消滅セントシテ僅ニ存スルモノアルニテ明ナリ又此地ニテハ生木セルモノモ之ヲ保護セザレバ雪ノ上ニ出ヅル部分枯死ニ至ルハ古市旅館庭中ノ老木ニヨリ之ヲ證スルヲ得ベキガ如シサレバからたち生育ノ極北界ハ此邊ナリトイフヲ得ベシト思ハル弘前ニハ根回リ周圍三尺二寸ノ巨木アレバからたちノ生育ニ適スルヤ疑ナシ此等諸地ニ於ケル降霜ノ遲速最低溫度降雪ノ量等氣象上ノ事ニ就テハ多少調査セシモ頗ル不充分ニシテ今日之ヲ報告スルヲ得ザルハ遺憾ナリ此等ハ他日精探ノ上更ニ報道スル所アルベシ終リニ臨ミ謹ンデ弘前市成田敬衞氏青森市木梨氏竝ニ種市氏盛岡市山田玄太郎氏ニ種々ノ援助ト多量ノ種子トヲ贈與セラレタル事ヲ鳴謝シ八戸町三輪正氏其他巡回中種々ノ便宜ヲ與ヘラレタル諸氏ニ對シ謹ンデ其厚意ヲ感謝ス

◎新著

○ヂュン氏「獼猴桃屬ノ研究」

Dunn, S. T.,—A Revision of the genus *Actinidia* Lindl. in Jour. Linn. Soc. XXXIX, p.p. 394—419, 1911.

著者ハ先ヅ本屬ノ性狀ヲ定メ一般形態、生態及ビ有用ヲ短述シ次ニ本屬設立ノ歷史、分類學上ノ位置ニ就キ古來他學者及ビ自己ノ意見、本屬ノ現世產植物ニ就キ系統發展ノ狀及ビ地理分布ヲ記シ尙各種ノ精細ナル各論ニ移リ最後ニ一般檢索表及ビ分布圖一葉ヲ附シタリ、

一千八百三十六年リンドレー氏(J. Lindley)ハネポール產本屬ノ一植物ニ依リ Actinidia, Lindl. ヲ設立シ Dilleniaceae ノ中ニ入レタルニ始ル、而シテ本屬ノ異名トナルベキモノニアリ一ハ Trochostigma, S. et Z. ニシテシーボールド、ツッカリニ兩氏ガ一千八百四十三年日本產本屬植物ニツキ設ケシモノニシテ當時之ヲ Ternstroemiaceae ノ中ニ入レタリ。他ハレーゲル氏ノ Kolomikta, Rgl. ニシテ滿洲產ノ本屬植物ニヨリ設立シ之ヲ Tiliaceae ノ中ニ入レタルモノナリ、

分類學上ノ位置ハ各學者ノ間ニ意見ヲ異ニシ或ハ Dilleniaceae ニ入レ又ハ Ternstroemiaceae ノモノトナス一千八百三十六年リンドレー氏ハ果實ヲ見ザリシガ多數ノ心皮、離生花柱、內向胚珠ヲ有スルノ點ヲ以テ Dilleniaceae ニ入レタリ

一千八百四十三年シーボールド、ツッカリニ兩氏ハ Ternstroemiaceae 中ノ Saurauja, Willd. 屬ト近親ノ間ニアル

（一一）濱館村工藤喜右衞門方

根本ヨリ四本ニ分枝ス總高二間許リ果實ハ僅ニ二三十個ヲ着クルノミ駒込村鹿内小左衞門方からたちノ種子ヲ播キテ成木セルモノニシテ樹齡約四十年ヲ算スベク三十年前ヨリ能ク結實セリトゾ

（一二）高田村與崎義郎方

根周リ一尺四寸五分地上尺餘ノ所ニテ二本ニ分枝ス總高二間アリ樹齡ハ三十餘年ナルベク結實シ始メテヨリ既ニ二十餘年ヲ經過セリ果實總數二百許リ各果實ノ大サ四寸乃至四寸八分（九月廿四日調査）

此樹ハだいだいノ種ヲ蒔キテ成木セシモノナリトハ同家老人ノ實話ナリ

（一三）高田村淺木由造方

同村與崎義郎方ノニ比スレバ樹ハ小サク結實數ハ遙ニ少カリシ而シテ十年已前ニ之ヲ伐倒シ今ハ根株モ存セズ

以上ノ狀況ヨリ推シテ當地方ニテハからたちハ良好ニ生育シ結實モ相當ニ豐富ナルモノトイフベシ元來當地方ニテハ四五十年前ニハ蜜柑ヲ見ルコト無カリキ蜜柑ノ來リ始メタルハ二十五六年前ニシテ其前マデ來リシモノハ主トシテだいだいニシテ時ニくねんぼ來ルコトアリ今日不惑ノ年ニ達セル人々ハ皆幼時ノ事ヲ語リテ曰ク若シだいだい一個ヲ得ルコトアラバ恰モ珠玉ヲ手ニシタルガ如ク喜ビ且ツ珍重セルモノニテ先ヅ嘗ク之ヲ玩弄ニ供シ程經テ其果肉ヲ多クノ人々ニ分食セシモノナリトゾ從ツテからたちノ木モ稀品トシテ之ヲ大切ニシ甚シキハ其周圍ニ柵ヲ結ビ濫リニ人ノ其附近ニ立寄ルヲ禁ジタルモノスラ之アリ固ヨリ當地ノからたちノ實ハ苦味ト澁味ト多クシテ倒底食用ニ供スベカラズサレド蜜柑ノ木ト稱シテ之ヲ栽培シ其果實ハ小兒ノ玩弄物トナルニ過ギズ其他ノ點ニ關シテハ何等利用上考究セラレタルコトハナキナリ然リ其生育スル模樣ハ只雪中嫩枝ノ先端ハ凍傷ヲ受ケテ二三寸ノ枯死スルモノアル故播種後二三年間ハ多期多少ノ保護ヲ與フルアレバ則チ足ル其以後ハ何等ノ手數ヲ要セザル者ナリ」（以上木梨氏ノ書柬）

北津輕郡五所河原邊ニテハ生育困難ナレドモ冬期雪障ヲナセバ間餘ノ高サニ達シ能ク結實スル者アルハ予ノ目撃セル所ナリ然レドモ霜雪ノ備ヲ爲サザルモノハ悉ク枯死ス是亦同所郡役所ノ土手ニ植ヘタル苗木ノ三年目ノ今日殆ン

ニテ見ル最大ノからたちナリ果實ヲ着クル㆒總數約三百各果實ノ大サ四寸乃至四寸七分ニ及ブ（九月十七日ノ調査）現今既ニ木心腐朽シ樹齢八九十年ナルベシトイフ今日五六十歳ノ人ノ話ニ各自十歳許リノ小供ノ際既ニ此樹ハ果實ヲ多ク結ブ大木ナリシトゾ此樹ノ起原ニツキテハ同家ノ老人京詣リヲナシ歸路蜜柑ヲ持歸リ其實ヲ播キシトイヒ或ハ上方ヨリ蜜柑ノ苗木ヲ持來リ移植セシモノナリトモイフ

同村ニ尚ホ三株アリ何レモ此樹ノ實生ナル由次ノ如シ

（六）駒込村千葉與三郎方

根周リ一尺六寸目通リ一尺一寸約高二間半果實ヲ着クルコト約二百ニ及ブ

（七）駒込村千葉兼造方

根周リ一尺七寸五分地上約二尺ノ所ニテ三本ニ分枝ス各太サ一尺許リニシテ總高約二間半果實總數約百

（八）駒込村近藤八重次郎方

根本ヨリ五本ニ分ル各太サ九寸總高約三間果實ヲ着クルコト約二百ト認メタリ

（九）戸崎村鹿内三衛方

根周リ一尺三寸ニシテ地上約二尺ノ所ニテ二本ニ分枝シ更ニ各二分セリ總高約二間アリ果實ヲ着クルコト六七十個ニシテ樹齢十四五年ナリトイフ其起原ハ同村某方ノからたちノ果實ヲ得テ播種セシニ因ル此某方ニテハ往年京詣リノ歸路持來レル蜜柑ノ種ヲ播キシモノ大木トナリシ由ナルモ今ハ既ニ伐倒シ根株モ存セズ

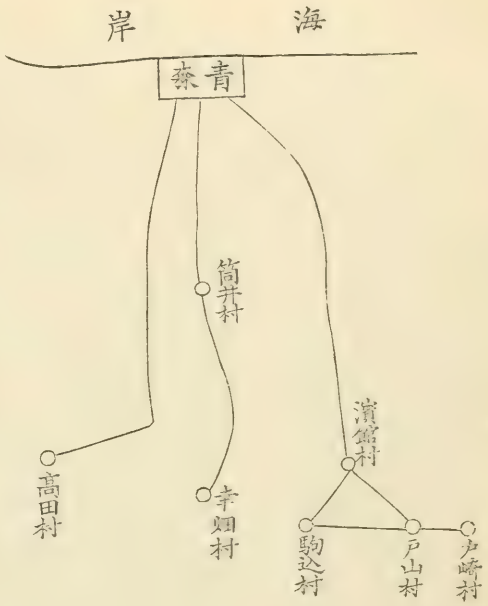
（一〇）戸山村奥崎久太郎方

戸崎村鹿内三衛方ノト其起原ヲ同フス播種後五六年ニシテ根周リ約一尺高サ一間半ニ成長シ一昨四十二年始メテ結實シ昨年ハ勿論本年モ亦結果セシモ去ル八月初メ之ヲ伐倒シタリ九月十七日調査ノ際ニハ根株ヨリ二三本ノ嫩莖ヲ萠出シ高サ各二尺餘ニ伸長セリ試ミニ切株ニツキ其年輪ヲ數ヘントセシモ木理不分明ニシテ容易ニ識別シ難キ故遂ニ中止セシハ殘念ナリキ

○再びからたちノ北方分布ノ限界ニ就テ　白井

○再ビからたちノ北方分布ノ限界ニ就テ　白井

左ニ木梨氏通信ノ全文ヲ引證シ茲ニ謹ンデ同氏ノ厚意ヲ鳴謝ス



青森市附近ノからたち

（一）幸畑村小泉重吉方

根周リ一尺三寸七分アリ四尺ノ高サニ於テ太サ一尺總高二間半樹齢三十年ニシテ果實ヲ着クルコト總數約百餘アリト認メタリ各果實ノ大サ三寸四分乃至三寸八分（九月三日ノ調査）此樹ノ起源ニ付テハ二說アリ一ハ駒込村鹿内小左衞門方ヨリ移シタル苗木ノ成木セシ者トイヒ他ハ蜜柑ノ種子ヲ播キシ結果此からたちニ化セシナリト

（二）幸畑村小泉久兵衞方

莖ノ大サ二尺餘アリ年々多少ノ結實アリシモ五六年前之ヲ伐倒シ今ハ根株ヲモ存在セズ

（三）筒井村德差勳方

莖ノ太サ二尺許樹齢約五十年毎年多數ノ結實アリ果實ハ普通ノ蜜柑ノ大ニ成長シ美麗ナル橙黄色ニ着色セシモ三年前之ヲ伐倒シ今ハ根株モ存在セズ其起原ニツキテハ京詣リノ土産ニ蜜柑ヲ持歸リ其種子ヲ播キシニ因ルトノ說アリ

（四）筒井村歩兵第五聯隊兵營ノ生垣

明治三十二三年ノ頃苗木ヲ移植シタルモノニシテ本數一千以上モ有ベキモ元來生垣ノ事故發育宜シカラズ又枯死セルモノモ多キ樣ニ見ユ毎年六七月頃花ヲ開クモ果實ヲ結ブハ極メテ稀ナリ

（五）駒込村鹿内小左衞門方

根周リ三尺七寸アリ高サ十尺ノ所ニテ二本ニ分枝ス其一本ハ一尺五寸他ハ一尺六寸五分總高約三間許アリテ青森市附近

同	筒井村	德差勳	二尺許	不明	不明	年齡五十年多數ノ結實アリ
同	筒井村	歩兵第五聯隊兵營ノ生垣	不明	不明	不明	明治三十三年頃植之
同	駒込村	鹿内小左衛門	三尺七寸	三間	許	青森附近最大ノ木ニシテ結實約三百箇アリ
同	駒込村	千葉與三郎	一尺六寸	二間	半	結實約二百箇アリ
同	駒込村	千葉兼造	一尺七寸五分 根元ヨリ五本ニ分レ各太サ九寸	二間	半	結實總數約百箇アリ
同	駒込村	近藤八重次郎		三間	許	結實約二百箇アリ
同	戸崎村	鹿内三衛	一尺三寸	二間	餘	結實六七十個アリ
同	青森市内ニハからたちヲ存セズ					以上木梨純太郎氏實測
同	津輕郡黒石	兼田一郎氏	一尺八寸五分	二間	位	有
弘前市代官町		鳴海氏	一尺二寸	二間	位	有
同	瓦ヶ町	成田氏	三尺二寸	三間	位	有
北津輕郡五所河原		古市旅館	九寸	二尺五寸		(此木ハ以前ハ年々雪障チナセシモ近年之ヲ放置スル爲上部枯死切詰メタリ)(結實十餘箇アリ此木ハ年々冬雪被チナシ保護スト云フ)
同		秋本久吉地内	七寸五分	一丈一尺		
秋田縣大曲驛花館		伊藤善吉	二尺五分	二間	位	

(三) 結論

今回探檢ノ結果ヲ總合スルニ青森縣ノ北端下北郡田名部ニハからたちノ生樹ヲ見ズ同所圓通寺ノ住僧ノ說ニからたちハ苗木ヲ取寄セ三回許試植セシモ寒氣ニ堪ヘズ年年短縮シ大抵三年目ニ全ク枯死セリ又密柑類ハ盆栽ナレバ保テドモ地ニ下セバ地上ノ部枯死シ砧芽ヲ發シからたちニ變シ是モ二三年目ニ根マデ枯死ス云云思フニ支那ニテ橘淮ヲ越ヘテ枳トナルトイフハ此ノ如キ事實ヲ謂ヒタルモノニ外ナラザルベシ又青森市及野邊地ニハからたちノ老樹ナシ北海邊ニ近キ爲カ青森附近海邊ヨリ一里餘ヲ内地ニ入リシ筒井村、幸畑村、濱村、戸山村、戸崎村ニハ數株ノ老樹アリ能ク結實スル事ハ青森師範學校敎官木梨延次郎氏竝筒井尋常高等小學校長種市有隣氏ノ調査ニヨリテ明ナリ

○再ビからたちノ北方分布ノ限界ニ就テ　白井

○再ビからたちノ北方分布ノ限界ニ就テ　白井

(二)親察シタルからたちノ所在竝大小等

巡廻中自親目撃セシモノ竝ニ知友ノ探檢ニヨリ發見セラレシからたちノ所在大小等ヲ表記スレバ左ノ如シ

所在地	所有者	根元周圍	高サ	果實
盛岡市顯正寺		一尺一寸八分	一丈餘	有
同　物産館		九寸二分	八九尺	有
同　同		八寸六分	八九尺	有
同　同		一尺四寸	八九尺	有
八戸町朔日町	來迎寺	二尺七寸三分	二丈許	有
同　同		三尺	二丈餘	有
同八幡町	橋本和吉	八寸七分	二丈許	有
同　同町	同人	九寸	二丈許	有
同中番町	小杉氏	九寸	生垣	有
同類家	西村氏	一尺八寸五分	生垣	以上予ガ實測
同柏崎（シバサキ）新町	南部氏	三尺二分	四間半位	不明
同常海（ジヤウカイ）町	安藤氏	二尺三寸五分	二間餘	不明
同鷹匠小路	野村氏	二尺一寸三分	二間餘	不明
同長横（ナガコ）町	北村氏	二尺〇一分	刈込ノ爲漸ク一丈許アリ	年齡七八十年位
同常海町	船越氏	一尺九寸	二間餘	年齡六十年位
同徒士町	中野醫院	一尺八寸五分	二間餘	不明
同館村長根	高橋氏別莊	一尺七寸二分	二間餘	以上八戸三輪正氏實測
青森附近幸畑村	小泉重吉	一尺三寸七分	二間半	結實百箇以上アリ
同同村	小泉久兵衞	二尺餘	不明	年々結實アリシモ五六年前伐木ス

ノ者ヲ檢出ス

卽日弘前ニ歸リ市中代官町ニ菊地楯衞氏ヲ訪ヒからたちノ古木ノ所在ヲ問ヒ代官町鳴海氏竝ニ上鳧ケ町成田氏邸内ニアルからたちノ木ヲ見ル成田氏邸内ノ者ハ頗ル巨木ニシテ根廻リ三尺二寸ニ及ベリ

十六日午前七時四十分弘前市發汽車大釋迦驛ニ至リ馬車ニテ五所河原ニ至リ郡立農學校ニ立寄リ同校長某氏ノ案内ヲ得テからたちノ生樹ヲ探リ郡役所ニ至リ郡長樋口兵次郎氏ニ面會シからたち生育ノ模樣ヲ問訊シ卽日弘前ニ歸ル

十七日弘前市中巡廻長勝寺門前杉ノ巨木五人合抱ノ者ヲ見ル午後一時弘前發

十八日午前九時秋田縣大曲驛ニ着シ農事試驗場諸氏ト共ニ驛ノ近傍花館村ニ至リ伊藤善吉氏邸内ニアルからたちノ古木ヲ見ル午後一時三十分同所發午後五時山形縣新庄驛ニ着ス

十九日午前八時三十分新庄驛發馬車鶴岡ニ向ヒ午後六時同地着途中清川ト鶴岡トノ間最上川畔ノ名木仙木杉ノ巨幹數多鐵道敷地ニ中ルモノ伐倒セラレアルヲ見ル惜ム可キノ至ナリ仙人杉ハ希代ノ名杉ニテ海内未ダ曾テ他處ニ見ザル所數百年ノ老杉根上ヨリ纖房花梗狀ニ分岐シ頗ル奇狀ヲ呈スルモノナリ

二十日午後鶴岡發東田川郡大網(おほみ)村ニ至ル行程六里餘此日田川ノ奥伊勢山ニ大杉アリ根廻リ九間八疊敷ノ洞穴アリ中ニ熊野權現ノ小祠ヲ祀リ樹ノ高サ二十五間アリトノ事ヲ聞ク

二十一日大網村ヨリ湯殿山へ往復ス村ヨリ峠マデ半里此間柳ノ清水アリ田母木マデ一里田母木ヨリ獨鈷水マデ一里此處ニ弘法大師ノ手拭(てぬぐ)杉アリ獨鈷水ヨリ笹小屋へ一里笹小屋ヨリ仙人澤迄半里仙人澤ヨリ湯殿山へ半里アリ大網村湯殿山本坊ニ玉壇ノ杉アリ三人合抱ノ巨木ニシテ二間程上ヨリ八本分岐ス此日途中ニテ球猪苓ヲ掘ル

二十二日大網ヨリ鶴岡ニ歸ヘル

二十三日鶴岡發十三里ヲ人力車ニテ新庄ニ出デ同處舊城趾ニ三木欅ノ巨木ヲ見汽車夜行

二十四日午前七時澁谷停車場着

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ヲ詳ニセズ

同十一日盛岡高等農林學校ニ山田農學士ヲ訪ヒ同氏ノ案内ニヨリ市中ヲ巡廻シ盛岡公園。物産陳列所。顯正寺。法華寺等ニ至リからたちノ古木ヲ見ル此日高等農林學校ニ於テ青森縣東津輕郡筒井村筒井尋常高等小學校長種市有隣氏ニ面會シ青森市附近ニモ結實スルからたちノ生樹アルヲ探聞ス

午後四時四十分盛岡市ヲ發シ八戸（ハチノヘ）ヲ經テ鮫浦ニ至リ泊ス

同十二日鮫浦ヨリ八戸ニ至リ同所高等女學校教官三輪正氏ヲ煩ハシテ相共ニ町内諸所ヲ巡廻シテからたちノ古木ヲ見ル此日同地朔日町來迎寺境内ニ於テ根廻リ三尺ノ巨木ヲ發見ス

午後二時五十分八戸發午後五時青森ニ着シ帝室林野管理局ニ佐々木和策氏ヲ訪フ

同十三日午前九時青森ヨリ汽車野邊地ニ至リ此處ニテ青森大林區野邊地分担區在勤工藤宥馬氏ニ面會からたちノ有無ヲ問ヒ古木ナキ事ヲ探知シ夫ヨリ汽船ニテ下北郡湊ニ至リ上陸馬車ニテ田名部ニ至リ泊ス此日田名部ニテ帝國林野管理局在勤技手奈良常三郎同技手一瀬留彦氏ニ面會シテからたちノ有無ヲ質セシニ奈良氏ノ說ニ氏ハ七年以前ヨリ此地ニアリテ所在ノ村落ヲ巡廻セシモ未ダからたちヲ目擊セズ且此地ノ俚人ニシテからたちヲ知ル者ナキヨリ考フルニ此地ハからたち生育ノ限界外ニアルモノナルベシトノ事ナリ此日此地ノ別當天神社ノ神木銀杏ノ巨木直徑一間餘ナルモノアルヲ實見ス

同十四日此地古刹圓通寺住職熊谷全應師園藝ノ嗜好アリ且博識ノ聞ヘアレバ早朝同師ヲ訪ヒテ其說ヲ叩キ午前十一時馬車ニテ湊ニ向ヒ同地ヨリ汽船ニテ青森ニ歸リ午後九時弘前市ニ至リ齋吉旅館ニ入ル

同十五日弘前市ヨリ川邊マデ汽車夫ヨリ人力車ニテ黑石町ニ行キ郡立農學校ニ至リ教諭中野新佐久氏ノ案内ヲ請ヒテ町中ヲ徘徊シテからたち。和林檎。りんきノ三樹ヲ探索シ同所德兵衞町笹館氏ニテりんきノ大樹目通リ直徑三尺八寸五分ノ者ヲ實見ス是此邊唯一ノ遺木ナリ此種ハ此地方ニテハ既ニ世人ノ記臆ヨリ忘レラレ農學校ニテモ此木ノ存在スルヲ知ラザリシ位ナリ又同所保食（ウケモチ）神社境内ニテさいかち（皂莢）ノ巨木目通リ九尺三寸ノ

○再ビからたちノ北方分布ノ限界ニ就テ　白井

へば Cinnamomum, Machilus, Litsia, Lindera 等に命名せるもの多くして、稀に Magnoliineæ（木蘭科）の種類に誤りて附する名もあり、「ヲガタマ」は今之を Michelia に命じ「タムシバ」は今之を Magnolia に充てたる等是なり。蓋し樟科以外の種類にても多少の香氣を含めるもの若くは柄（タフ）に葉形外觀類似するものなるが如し。此は元より語源を辨へず植物の種類をも知らざるよりの誤謬命名にして紀州にては Lindera（クロモジ）を「ヲガタマ」と呼び、伊豫にては Cinnamomum（ヤブニクケイ）を「タマシバ」と稱へり、蓋し「タムシバ」といひ、「タマシバ」といふも元同言なりと知るべし。

再びからたちノ北方分布ノ限界ニ就テ

白井光太郎

Shirai, M.:—Review on the Northern Limit of Distribution of *Citrus trifoliata* Makino in Japan.

予ハ曾テ本誌第二百五十號ノ紙上ニ我國ニ於ケルからたちノ北方分布ノ限界ニ就テ所見ヲ述ベシ事アリシガ今度再ビ同問題ニ就キ記述スル事トナレリ其故ハ昨年一月中北米合衆國和聖東府農務省植物產業課ワルター、スウイングル氏ヨリ來書ニ日本產からたちノ北方分布ノ最極端ノ地方數所ニ生スル者ノ種子ヲ得テ柑橘類耐寒雜種作成試驗ノ用ニ供シタケレバ採集ヲ依頼シ度トノ事アリタレバ此種子ヲ得ル爲ニ更ニ東北地方ニ於ケルからたち分布ノ狀況ヲ調査スルノ必要ヲ生シタリ然ルニ幸ニシテ昨年夏期休暇中岩手青森秋田ノ三縣下ヘ學術實地研究ノ官命ヲ拜セルヲ以テ此等ノ事柄ヲ調査スルノ便ヲ得タレバ茲ニ再ビ所見ヲ陳述スル事トナリシナリ

（一）探檢日誌

明治四十四年八月九日午後二時府下澁谷停車場出發

同十日午前八時東北線平泉驛下車中尊寺附近巡廻俚人ヨリ此地ニたちばなノ生樹高四五尺根廻五寸ノモノアル事ヲ聽キシモ實物ヲ見ルニ及バズシテ此處ヲ去リ午後二時盛岡市ニ着ス盛岡ニモたちばなアリト聞ク未ダ其眞僞

Aka-*tabi*（出雲）
oo-*tabi*（三樹考）
Shiro-*tabu*（筑後）

複言にして(d)を以て始り、下言を成すもの左の如し

Ma-*tomi*（八丈島、大島）
Kusu-*damo*（勢州）
Abura-*damo*（勢州）
Men-*damo*（勢州）
Kusa-*dami*（豆州大島）
Kuro-*dama*（豆州）
Kara-*damo*（播州）
Shio-*dama*（上總）
Sho-*dama*（房州）
Shiro-*damo*（三樹考）
Mendoo-*damo*（三樹考）

以上の如く、一單音の言は轉訛に轉訛を生し、又複言を成して漸次數多の Vocabulary を形成し異種の植物を判別せる狀況に達せりと雖地方に依りては其種類の有無もあり分布等しからざるより、元來の意義に異なる別種の植物名となれるも鮮からず、原義の楠、枡、柮、榊は香木にして「クス」(kusu)に近き種類なるを以て、Tama-gusu 又 tama-kusa と同義の二言を作りて呼ぶ地方もあり、又 kusu-tabu 又 kusa-tabu 乃至 kusu-damo 又 kusa-domo と上の言を轉倒して稱へる地方もあるなり、要するに以上の諸方言は概して Lauraceæ（樟科）の植物例

Dami（豆州大島方言）

Damo（筑前、勢州、播州、佐渡）

となれり、(a) (i) (u) (e) (o)と有らん限りの母音を添加して訛れるものと謂ふべし。

複言にして(t)を以て始り、上言を成すもの左の如し。

Tama-gara（伊豫）

Tama-kusa（伊豫）

Tama-shiba（紀州）

Tama-no-ki（遠州、駿州、播州）

Tama-gusu（伊豆、伊豫）

Tama-shiba（美濃）甚シキハ tano-shiba ニ訛レリ

Tabi-no-ki（出雲）

Tanbu-no-ki（琉球大島）

Tama-tsuboki（伊豫）

Tama-asa（伊豫）

複言にして(t)を以て始り、下言を成すもの左の如し

Onga-*tama*（紀州）

Kara-*tabu*（筑後）

Kusa-*tabu*（筑前）

Kusa-*tabu*（日向）

Koga-*tabi*（伊豆）

ラ）と同種類の名にて、古への總名の一ともいふべく、又異名ともいふべき程のものに過ぎざればなり、よりて「オガタマ」は〔香楠〕又〔香枏〕又〔香栢〕の二字音より起れることを知るなり、〔香〕上海音 ciɛ̃ にして、皆人の知れる如く、fragrant, odoriferous, sweet の義あるにあらずや。若し之を「ヲ」の假字にするときは〔黄楠〕〔黄枏〕〔黄栢〕等の二字音にて、〔黄〕の廣東、福州、上海音共に wong にして、此も皆人の知る如く yellow の義なればなり〔黄心樹〕（三樹考には廣心樹と書けり）の漢名には適へり、後者は材質黄色なるの名、前者は香木なるの名にて ong(a)-tama. 又 wong(a)-tama より起りて、字音そのままなること明けし、さるを源與清は上言を小香（ヲカ）(oka) と清音に呼び、下語を dama と濁音に轉へたるなり、意義は大略同しけれども、語源は全然根本を異にせり。夫れ tama といひ、dama といひ、語根は同一にして與清が dama と濁らせたるは敢て非難するに及はざるのみならず、其轉訛頗る多きものなり。今茲に之を擧ぐれば左の如きものあり。

原言は tam 又 tɯn 或は dam 又 dɯn なりしが、日本語訛しては母音を語尾に加ふるが故に種々に轉して

Tama（筑前、伊豫、駿州、常陸方言）

Tame（新島方言）

Tami（八丈島方言）

Tamu（美濃方言）

Tabi（出雲方言）

Tabo（加州方言）

Tabu（筑前、筑後、豊前、豊後、肥前、日向方言）

Tanba（丹州）

Tanbu（琉球大島方言）

Dama（筑前、豆州方言）

をも「ヲカダマ」として檀と特に區別したるは言語の上よりしては其の意を得がたし。種類の上よりしては今日之を「ヲガタマ」として此に云ふ木蘭之屬にして、Michelia なれば首肯する人も多からむ。

今按するに、古へは今日本草家がものする如く、各種を一々區別して呼べるにあらずして總べて外觀の類似あれば皆總名にて事足り、精密の區別はなかりしなるべし、今尚支那の植物名は此の如きもの多し、又植物家にあらざるものは然らざるを得ず、

茲に言語の比較上より考ふるに、ogi-tama の tama は曾て本誌二十三卷二七五頁に述べたる如く、〔楠〕の古音 nam の轉 tam にて Michelia 又は Cinnamomum なるべく、〔枏〕の日本音 (danten 又〔栴〕の同音 dan. tan にて、爾雅に梅枏とあり、「クスノキ」と譯せるもの其語源にして、源與清がいふ如き圓(タブラ)なる義にあらず。圓實を結べる故に小香圓(ヲカタマ)とは牽強も甚し、此の tama は樹名にして實の名にはあらざるぞ、さるからに ogi-tama は kusutabu, oo-tabi, shiro-tabu 等の總名とはなれるにあらずや、

抑も玉の意義ある日本語の起源よりして源與清等には明瞭ならざりしなり、夫れ此の tama てふ言は〔壇〕の日本音 tam にして、玉篇に玉也とあり、又〔琛〕又〔賾〕の古音は dam にして a beautiful precious stone の義あるより來れるにて、圓の意義ある tama は〔圓〕又彈の日本音 tam より來れり、Ainu 語にて tuma といふも a bell, beads の義にして同言なり、又靈の意義ある日本語の tama は〔心〕の安南音 tam と同言にして、〔靈〕の福州音竝に上海音 lung の轉音が ten なることは猶〔楠〕の古音は nam なれども其油頭竝に厦門音は lam なるが如し、Ainu 語にて ram といふも Mind, heart, soul の義ありて卽ち同言なり、唯(l)と(r)との異ひあるのみと知るべし。

和訓栞、雅言集覽、俚言集覽等には皆 ogi-tama とあるを獨り源與清が三樹考にのみ oki-tama とものせるは偶〻小香(ヲカ)の語源を按出せるに因れるものにして、元來の語義にあらず、そは今按するに ogi-tama の書方に「ヲ」と「オ」との二樣の假字あるが如しと雖此は元來香木の名なりしを以て「ヲ」の假字こそ適當なれ、そは桂（カツ

冗了島の内に「ヲカタマノキ」といふものありとそ、そのやくの島より得たるもの津の國の灘の吉田氏に秘藏す、花は紫の雜黄蘆、實は橘柚類となん、是往古よりあるもの歟しらねど聞まゝにしるす、或は秘書と號けて心得ぬ事のみ書たるものに古今集の「ヲカタマ」の木は御賀玉とて祝ふ事に用ふるもの、よし書るは笑ふべし、物名の歌『みよし野のよしのの瀧にうかび出るあわ「ヲカタマノキ」ゆと見ゆらんといふさへ賀のものには似つかはしからぬに、ふして墨滅の歌には『かけりてもなに「ヲカタマノキ」ても見んからはほのほとなりにしものを』といふはたぐひなくいま〳〵しければ、ために墨滅なるべけれど、元來賀に用うるものにかくよむべきものかは、もとより「ヲ」「オ」の假字の違ひはわきまへにや。增に賢木の異名なりといふ、或云、此樹日向の高千穗峯にあり、神代よりの樹といひ傳ふ』とあり。

任三曰く、以上三書の說共大同小異にして、語源論の取るに足らざるは言ふまでもなく、植物の種類もその何たるを指せしにや、判斷に苦しまさるを得ず。茲に源與清が三樹考に據るときは三書と異なり、遙かに優れたる說なるを見るべし、卽ち左の如し。

劈頭に『廣心樹（ヲカダマ）　木蘭之屬、日向、薩摩等國人呼乎加多萬、盖漢名廣心樹也。櫃（ヲカダマノキ）　桂屬之有實者、乎加小香也、多万謂實之圓形也。といひ置きて、賢木（サカキ）は桂（カツラノキ）、楠（クスノキ）、榊（シキミ）廣心樹（ヲカダマ）などの總名、加豆良乃木は櫃（ヲカダマノキ）木犀（ヲカツラ）などの總名、櫃は天竺桂（メカヅラ）の類の總名なれば、この三種をとり出で說を立、云々賢木は香き常葉木のことにて、桂、楠、榊、廣心樹などをいへど、ことさらに賢木とて神事に用るは櫃なり。櫃は天竺桂（クスタブ）、大多比（オホタビ）、白多夫（シロタブ）の總名なり。云々。櫃の乎加（ヲカ）は小香（カ）なり、荷蔥（ヲカトトキ）、茴（ヲカツ、ジ）なども香きものなれば然いふなり。多末（タマ）は玉にて、實の圓なるが玉に似たればいふ。云々。俗に多万乃木（タマノキ）とよぶ、古今榮雅抄（十の卷）に、櫃の字を書れしも、靈木（タマノキ）の合字なり。云々』と說けり。

任三曰く、源與清が櫃は「クスタブ」、「オホタビ」、「シロタブ」の總名なりとの說は當を得たるが如きも、廣心樹

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言語の上より見たる「ヲガタマ」の木

理學博士　松村任三

Matsumura, J.: — A name of the tree "ogatama" from the point of view on linguistic research.

和訓栞に「ヲガタマノキ」古今集に見ゆ、世の古今傳受には「御賀玉ノ木」といへども假名たかへり、「賢木」をいふといへば招魂（ヲカタマ）の義なるべし、今も伊勢神宮の禰宜の寶物を「ヲカマ」といへりキタ反カ也、日向の國小戸のいはやのあたりにいふ物は「トビラ」の木なるべし、一說に門松の下に立る木を「ヲカタマノキ」といふといへり、一木には限らさるにや、日本紀竟宴の歌に『玉柏「ヲカタマノキ」の鏡葉に神のひもろぎそなへつるかな』かゝれば岡靈の木の義にて直に柏をいふにや、又二木にや、或は烏柴をもいふと定家卿の說也、貞德自筆の和歌寶樹にも宗祇の切紙を難して三箇ならで古今集の奥義は歌序の中に多き事也といへり、後奈良の院享祿元十一月十六日こきんの御傳授道遙院申さるゝと御湯殿記に見えたり』とあり。

雅言集覽に「ヲガタマノキ」（古、物名、友則）『みよしののよしののたきにうかび出るあわヲカタマノキゆとみつらん、』（同、墨消の歌）『かけりても何ヲカタマノキてもみんからはほのほとなりしものを』眞淵の說に楢（ナラ）の木ともいひて「ツルバミ」といふみのなる木なり、その子（ミ）「玉カシハ」ともいふなり、といへれどしひたる說にてうけがたし、契沖が說にいかなる木ともしれず、六帖等にも出さず、古今集より外にはよまず、或抄に「ヲカタマノキ」說々多しといへどもさしたる證據なし、分明の相傳もなしといへり、これを正說とすべし。補に此もの日向高千穗に多し、肥前長崎にもあり、三島三木考に圖を出しおけり、彼書につきて考ふへし』とあり。

俚言集覽に（萬淵翁記）檜「クヌギ」になる實青き玉の樣なればと云々、閑田耕筆云、薩摩潟の鬼界島、屋久島、

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